HCD-CPX11

SERVICE MANUAL

Ver 1.1 2004.04

AEP Model
UK Model
Korean Model
Australian Model



HCD-CPX11 is the Amplifier, CD player, Tape Deck and Tuner section in CMT-CPX11.

CD Section	Model Name Using Similar Mechanism	NEW
	CD Mechanism Type	CDM80BH-F1BD81
	Optical Pick-up Name	KSM-215DCP
Tape deck Section	Model Name Using Similar Mechanism	NEW
	Tape Transport Mechanism Name	CMAL1Z-236A

SPECIFICATIONS

Amplifier section

European model:

DIN power output (rated): 55 + 55 W (4 ohms at 1 kHz, DIN)
Continuous RMS power output (reference): 75 + 75 W (4 ohms at 1 kHz, 10% THD)

Other models:

The following measured at 220 – 240 V AC, 50/60 Hz
DIN power output (rated): 55 + 55 W (4 ohms at 1 kHz, DIN)
Continuous RMS power output (reference): 75 + 75 W (4 ohms at 1 kHz, 10% THD)

Inputs
MD/VIDEO IN (phono jacks): Sensitivity 450/250 mV, impedance 47 kilohms

Outputs
CD DIGITAL OUT: Optical Wavelength: 660 nm
PHONES: accepts headphones with an impedance of 8 ohms or more
SPEAKER: accepts impedance of 4 ohms

CD player section

Laser: Semiconductor laser (CD: λ=780 nm) Emission duration: continuous
Frequency response: CD: 2 Hz – 20 kHz
Wavelength: 780 – 790 nm

Tape deck section

Recording system: 4-track 2-channel stereo
Frequency response: 50 – 13,000 Hz (±3 dB), using Sony TYPE I cassettes

Tuner section

FM stereo, FM/AM superheterodyne tuner

FM tuner section
Tuning range: 87.5 – 108.0 MHz (50 kHz step)
Antenna: FM wire antenna
Antenna terminals: 75 ohms unbalanced
Intermediate frequency: 10.7 MHz

AM tuner section
Tuning range
European model: 531 – 1,602 kHz (with the tuning interval set at 9 kHz)
Other models: 530 – 1,710 kHz (with the tuning interval set at 10 kHz) 531 – 1,602 kHz (with the tuning interval set at 9 kHz)
Antenna: AM loop antenna, external antenna terminal
Intermediate frequency: 450 kHz

General

Power requirements
European model: 230 V AC, 50/60 Hz
Korean model: 220 V AC, 60 Hz
Australian model: 230 – 240 V AC, 50/60 Hz
Power consumption
European model: 50 W 0.3 W (in Power Saving mode)
Korean model: 50 W
Other models: 50 W
Dimensions (w/h/d) incl. projecting parts and controls: Approx. 175 × 240.5 × 291 mm
Mass: Approx. 4.3 kg

Design and specifications are subject to change without notice.

MICRO HI-FI COMPONENT SYSTEM

9-877-766-02
2004D16-1
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Sony Corporation
Home Audio Company
Published by Sony Engineering Corporation

SONY®

Notes on chip component replacement
- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

Flexible Circuit Board Repairing
- Keep the temperature of the soldering iron around 270 °C during repairing.
- Do not touch the soldering iron on the same conductor of the circuit board (within 3 times).
- Be careful not to apply force on the conductor when soldering or unsoldering.

CAUTION
Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.



This appliance is classified as a CLASS 1 LASER product. This label is located on the rear exterior.

UNLEADED SOLDER
Boards requiring use of unleaded solder are printed with the lead-free mark (LF) indicating the solder contains no lead.
(Caution: Some printed circuit boards may not come printed with the lead free mark due to their particular size)

LF : LEAD FREE MARK
Unleaded solder has the following characteristics.
- Unleaded solder melts at a temperature about 40 °C higher than ordinary solder.
  Ordinary soldering irons can be used but the iron tip has to be applied to the solder joint for a slightly longer time.
  Soldering irons using a temperature regulator should be set to about 350 °C.
  Caution: The printed pattern (copper foil) may peel away if the heated tip is applied for too long, so be careful!
- Strong viscosity
  Unleaded solder is more viscou-s (sticky, less prone to flow) than ordinary solder so use caution not to let solder bridges occur such as on IC pins, etc.
- Usable with ordinary solder
  It is best to use only unleaded solder but unleaded solder may also be added to ordinary solder.

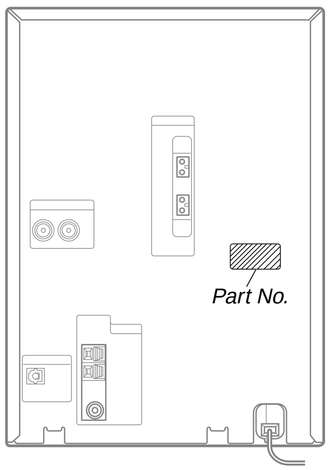
SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

NOTES ON HANDLING THE OPTICAL PICK-UP BLOCK OR BASE UNIT
The laser diode in the optical pick-up block may suffer electrostatic break-down because of the potential difference generated by the charged electrostatic load, etc. on clothing and the human body.
During repair, pay attention to electrostatic break-down and also use the procedure in the printed matter which is included in the repair parts.
The flexible board is easily damaged and should be handled with care.

NOTES ON LASER DIODE EMISSION CHECK
The laser beam on this model is concentrated so as to be focused on the disc reflective surface by the objective lens in the optical pick-up block. Therefore, when checking the laser diode emission, observe from more than 30 cm away from the objective lens.

MODEL IDENTIFICATION
– Back Panel –

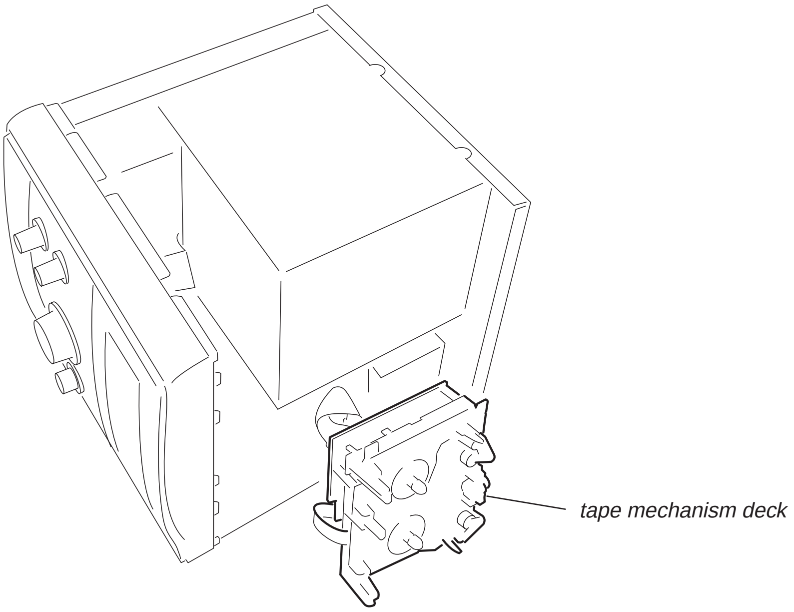


Model Name	Part No.
AEP and UK models	4-252-358-0□
Korean model	4-252-358-2□
Australian model	4-252-358-3□

TABLE OF CONTENTS

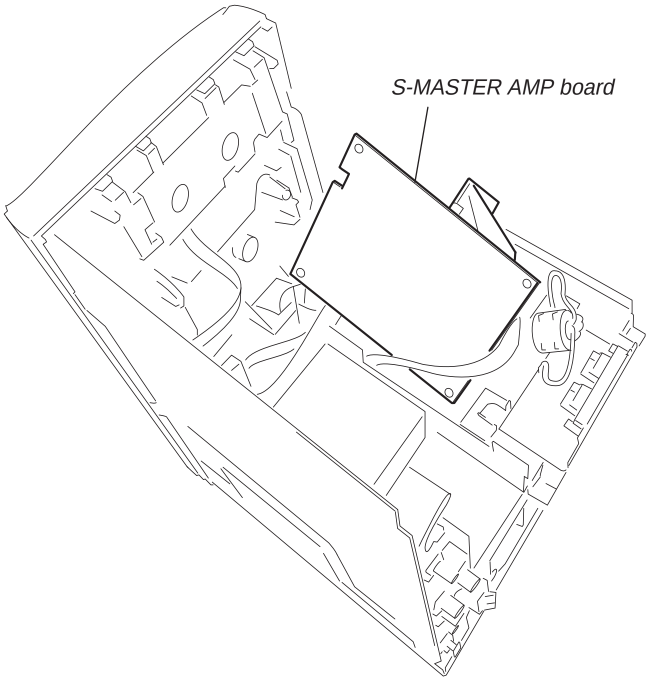
SECTION 1
SERVICING NOTES

SERVICE POSITION OF THE TAPE MECHANISM DECK



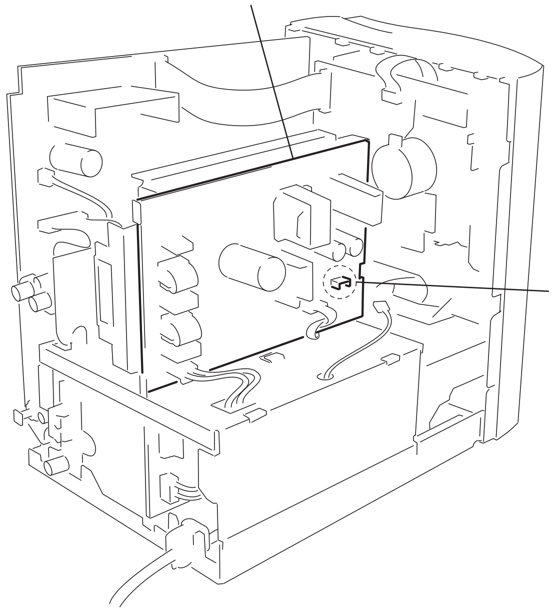
SERVICE POSITION OF THE S-MASTER AMP BOARD

- *Remove the switching regulator, the S-MASTER AMP board block first, then remove the S-MASTER AMP board from the S-MASTER AMP board block.*



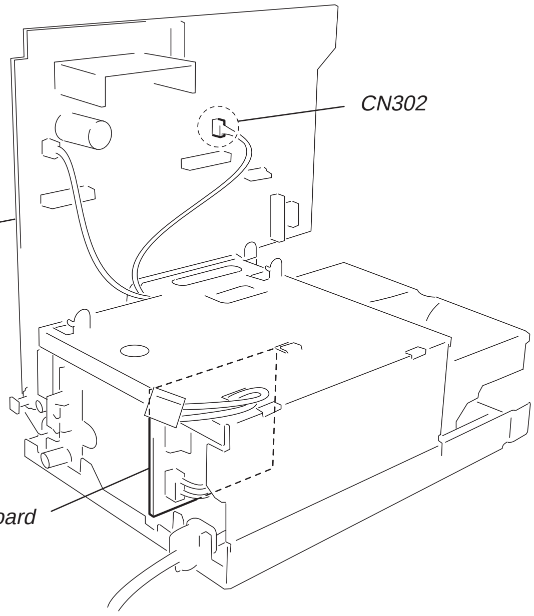
JUDGING WHETHER THE SWITCHING REGULATOR IS GOOD OR DEFECTIVE

• *The switching regulator is judged to be good when the terminal voltage at the switching regulator CN4 is 12 V.*



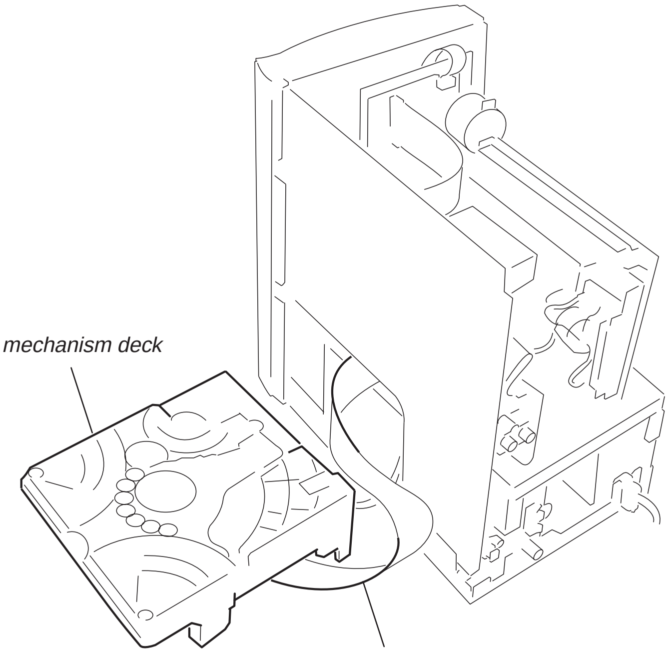
JUDGING WHETHER THE SUB POWER BOARD IS GOOD OR DEFECTIVE

• *It is judged to be good when the voltage between pin 2 (+4 V) and pin 3 (GND) of the MAIN board CN302 is 4 V.*



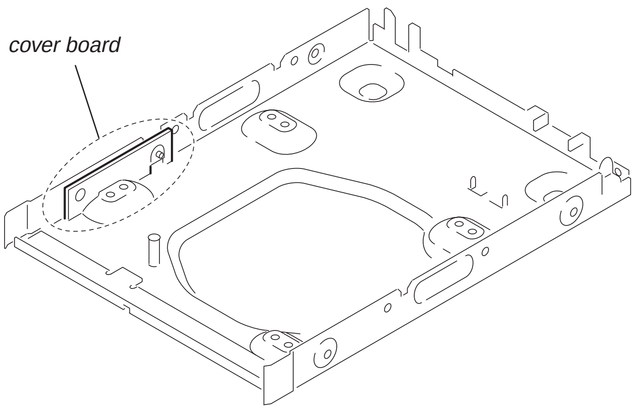
SERVICE POSITION OF THE CD MECHANISM DECK

• Remove the front panel and the circuit boards once in order to remove the CD mechanism deck. After removing the CDM, reassemble the panel and the circuit boards back to the original state.



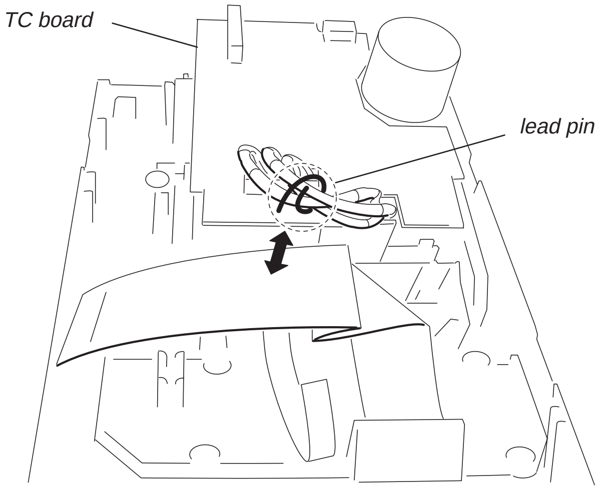
COVER BOARD

• This is the board used to blind the slot. Do not remove.



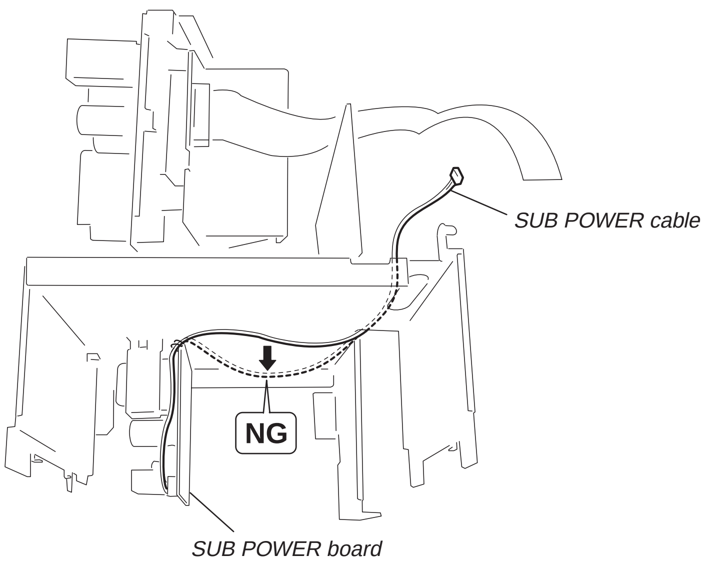
FIXING THE TC CABLES

• *To prevent cables from noise, fix the cables with the lead pin so that the cables do not contact with the flexible board.*



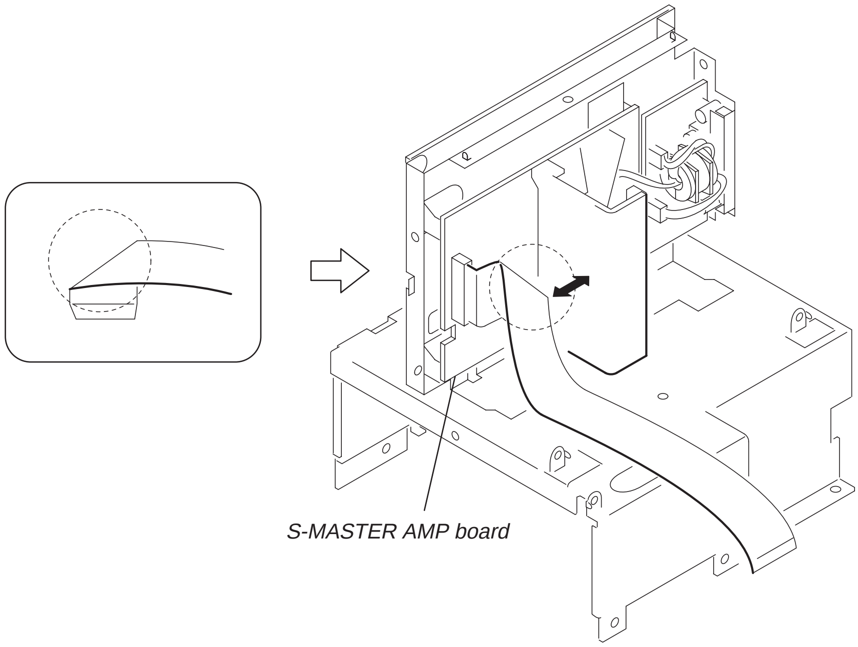
PREVENTING THE SUB POWER CABLES FROM SAGGING DOWN

• *Be careful not to contact with the CD mechanism deck.*



CAUTION SO THAT THE FLEXIBLE BOARD SHOULD NOT CONTACT WITH THE HEAT SINK

• When the flexible board is replaced, give the folding at the same position of the new flexible board with that of the old flexible board.



SECTION 2
GENERAL

This section is extracted from instruction manual.

List of button locations and reference pages

How to use this page

Use this page to find the location of buttons and other parts of the system that are mentioned in the text.

Illustration number
DISPLAY 24 (13, 20)
Name of button/part **Reference page**

Main unit

ALPHABETICAL ORDER

A – O

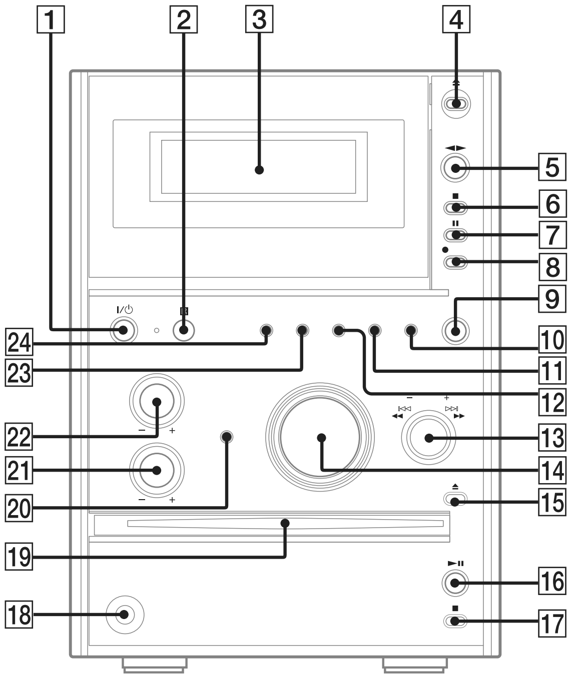
BASS +/– 21 (16)
CD SYNCHRO 11 (15)
DIRECTION 23 (14, 15, 16, 18)
Disc slot 19 (8)
DISPLAY 24 (13, 20)
Display window 3
DSGX 20 (16)
FM MODE 12 (12, 25)
FUNCTION 10 (8, 10, 12, 14, 16, 23, 26)

P – Z

PHONES jack 18
PLAY MODE 23 (8, 10, 15, 25, 26)
Remote sensor 2
REPEAT 12 (9)
TREBLE +/– 22 (16)
TUNER/BAND 9 (11, 12)
TUNING MODE 23 (11, 12)
TUNING +/– 13 (11, 12)
VOLUME 14 (17)

BUTTON DESCRIPTIONS

I/⏻ (power) 1 (7, 12, 17, 18, 26)
TAPE ⏏ (eject) 4 (14)
TAPE ◀▶ (play) 5 (14, 15, 16, 18)
TAPE ■ (stop) 6 (14, 15, 16, 26)
TAPE ❚❚ (pause) 7 (14, 15, 16)
TAPE ● REC (record) 8 (16)
⏮◀◀/▶▶⏭ (rewind/fast forward, go back/go forward) 13 (9, 10, 14)
CD ▶❚❚ (play pause) 16 (8, 9, 10)
CD ■ (stop) 17 (9, 12, 26)
CD ⏏ (eject) 15 (9)



Remote control

ALPHABETICAL ORDER

A – O

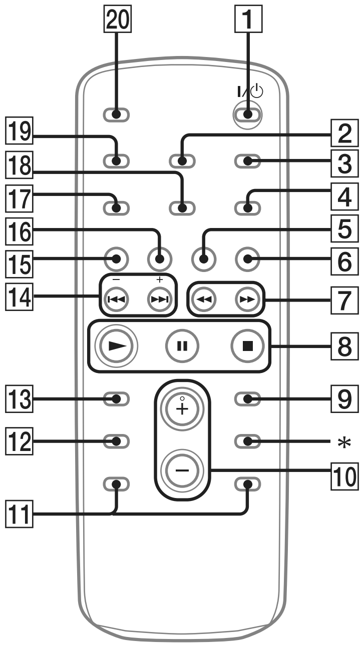
ALBUM +/– 11 (9, 10, 15)
CD 16 (8, 10)
CLEAR 13 (10)
CLOCK/TIMER SELECT 2 (18, 19, 24)
CLOCK/TIMER SET 3 (7, 17, 18)
DISPLAY 19 (13, 20)
ENTER 9 (7, 10, 11, 17, 18, 19)
EQ 12 (16)
FM MODE 4 (12, 25)
FUNCTION 6 (8, 10, 12, 14, 16, 23, 26)

P – Z

PLAY MODE 18 (8, 10, 15, 25)
REPEAT 4 (9)
SLEEP 20 (17)
TAPE 15 (14)
TUNER/BAND 5 (11, 12)
TUNER MEMORY 17 (11)
TUNING MODE 18 (11, 12)
VOLUME +/– 10 (17)

BUTTON DESCRIPTIONS

I/⏻ (power) 1 (7, 12, 17, 18)
■ (stop) 8 (9, 14)
❚❚ (pause) 8 (9, 14)
► (play) 8 (8, 10, 14, 18)
⏮/⏭ (skip back/skip forward) 14 (7, 9, 10, 16, 17, 18, 19)
◄◄/►► (rewind/fast forward) 7 (9, 14)
+/– (tuning) 14 (11, 12)



* Button does not function with this model.

Setting the clock

Use buttons on the remote for the operation.

1. **Press I/⏻ to turn on the system.**
2. **Press CLOCK/TIMER SET.**
3. **Press ⏮/⏭ repeatedly to set the hour.**
4. **Press ENTER.**
5. **Press ⏮/⏭ repeatedly to set the minute.**
6. **Press ENTER.**
   The clock starts working.

To adjust the clock

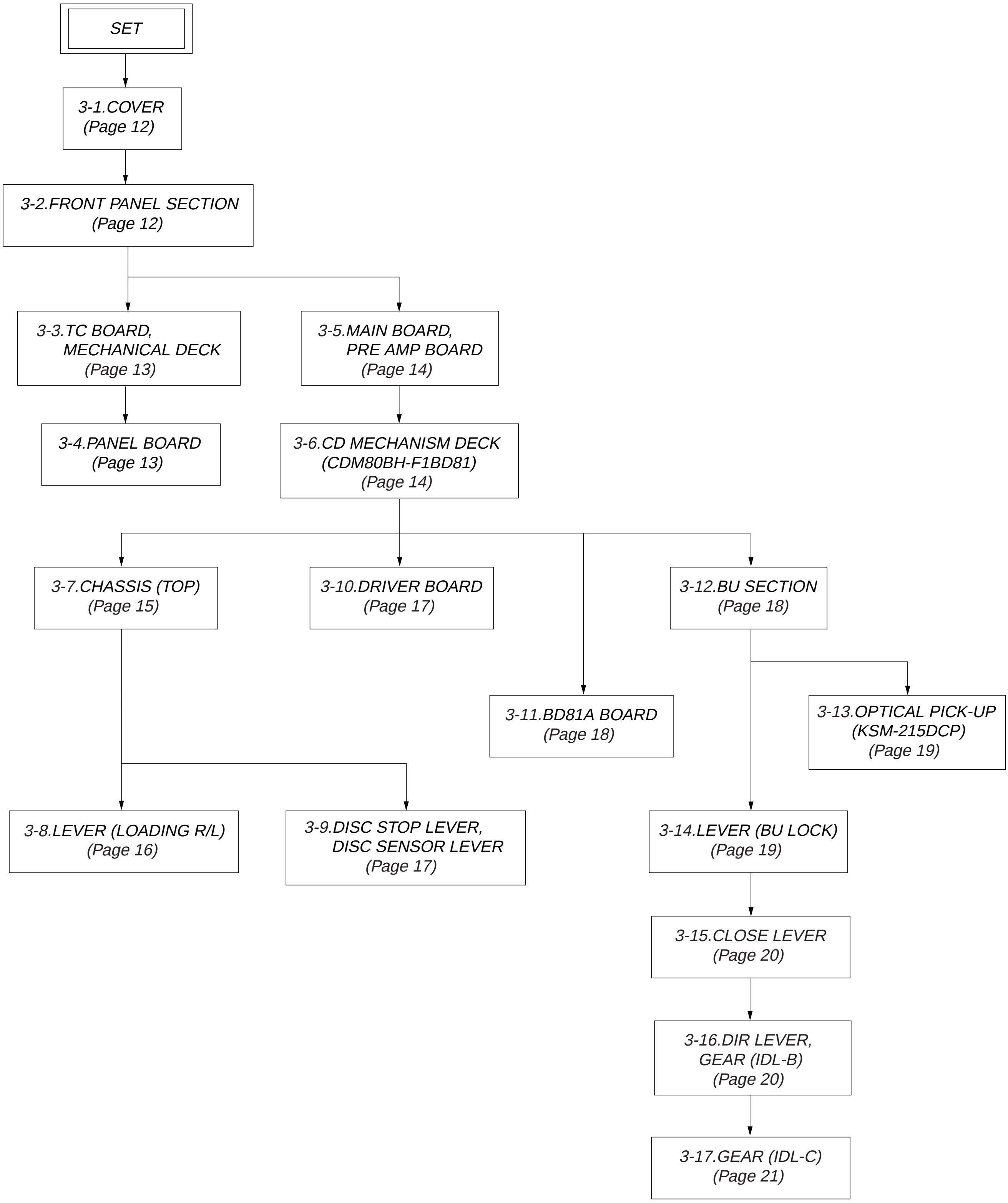
1. Press CLOCK/TIMER SET.
2. Press ⏮/⏭ until "CLOCK SET" appears, then press ENTER.
3. Do the same procedures as step 3 to 6 above.

Note

The clock is not displayed in Power Saving Mode.

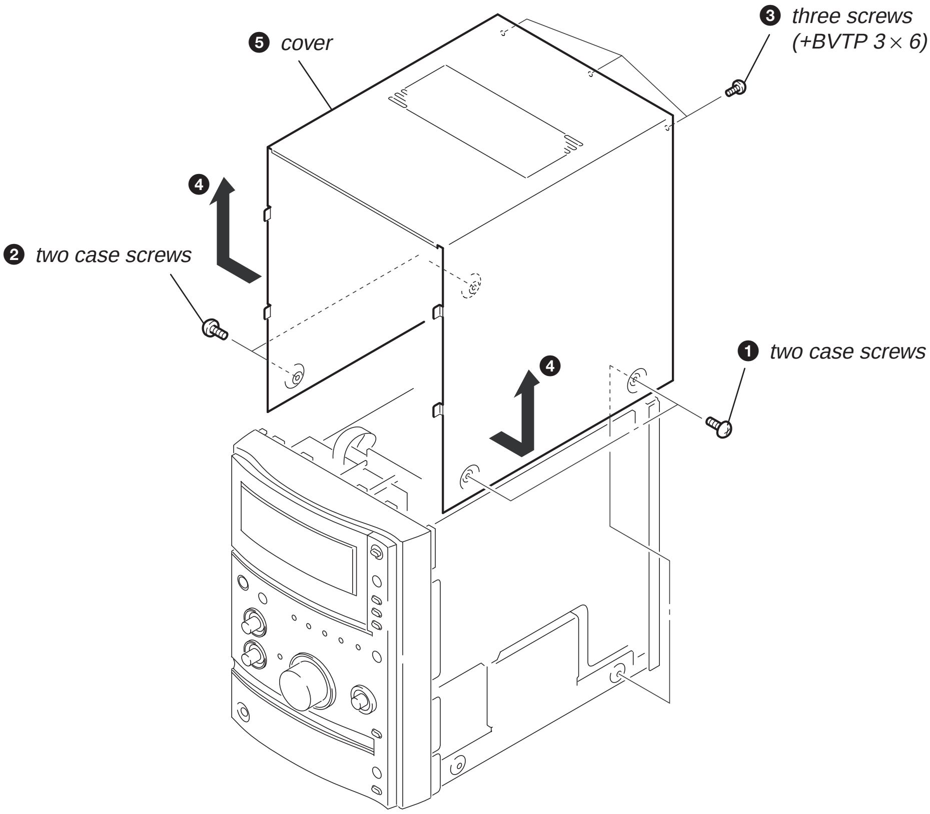
SECTION 3
DISASSEMBLY

- This set can be disassembled in the order shown below.

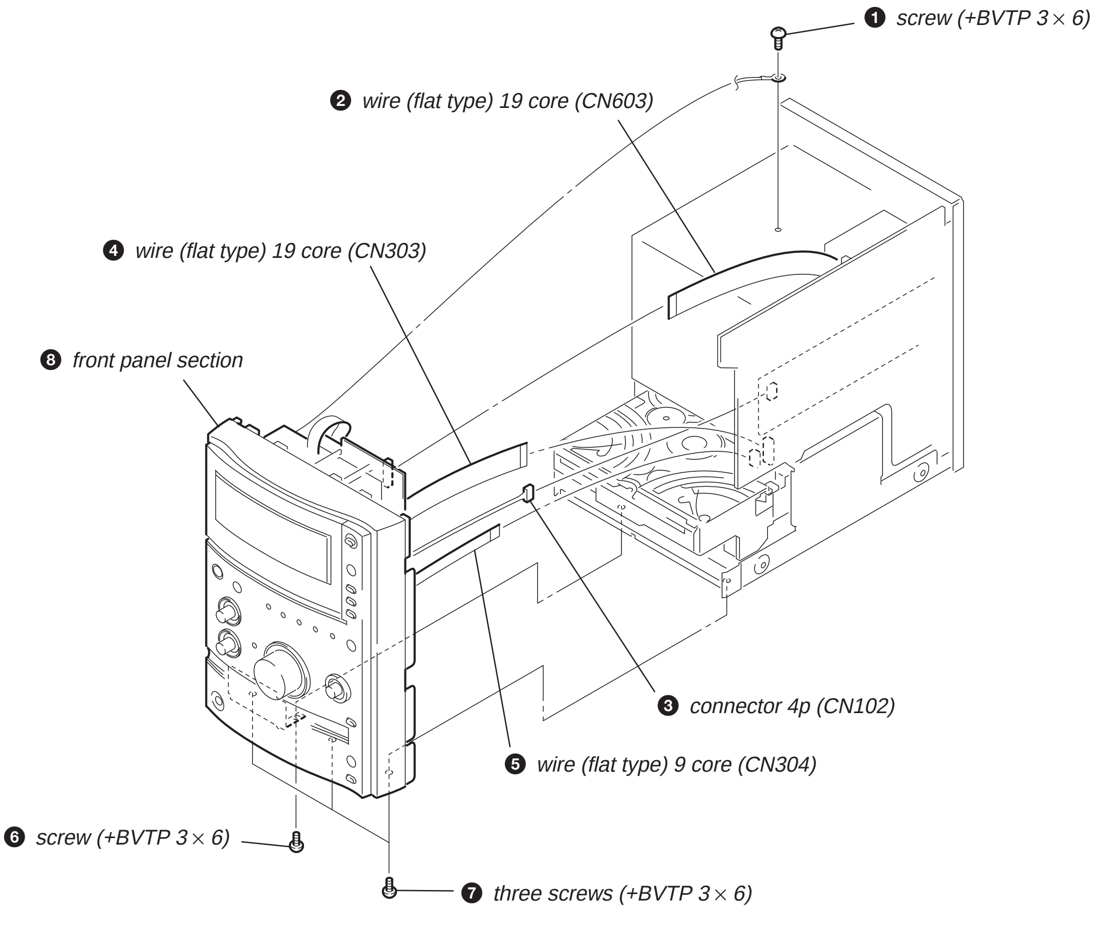


Note: Follow the disassembly procedure in the numerical order given.

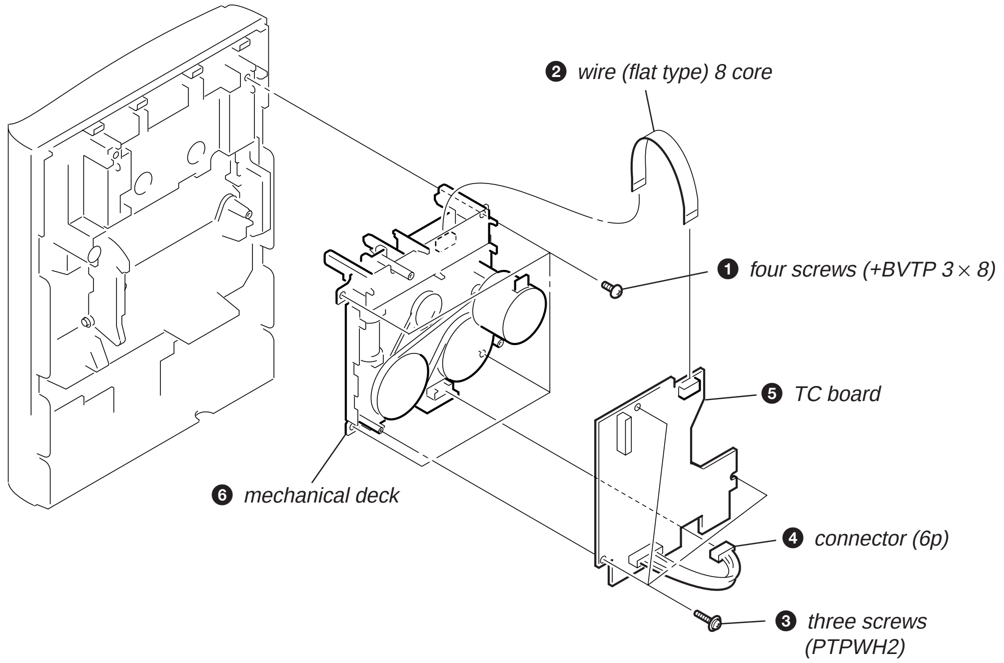
3-1. COVER



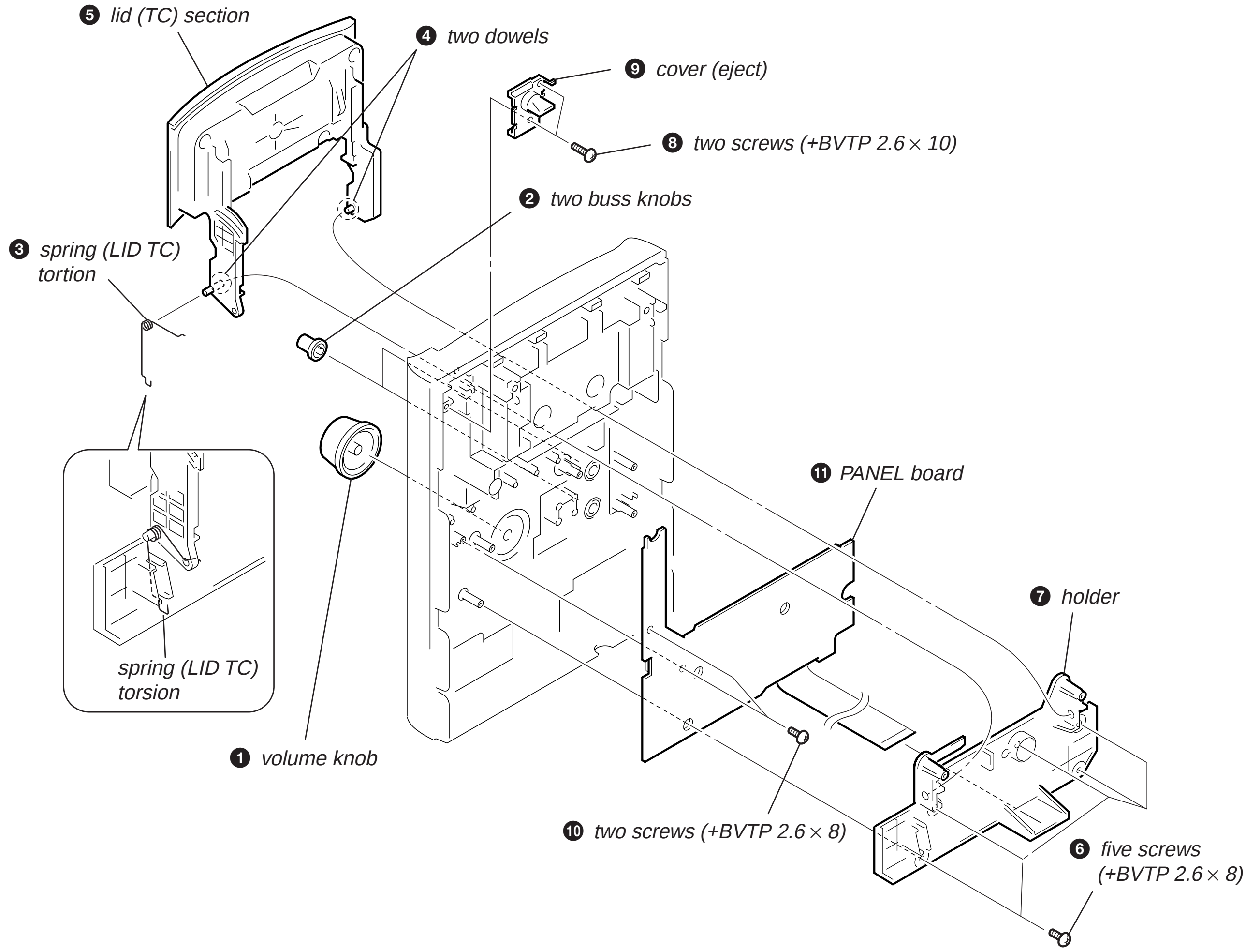
3-2. FRONT PANEL SECTION



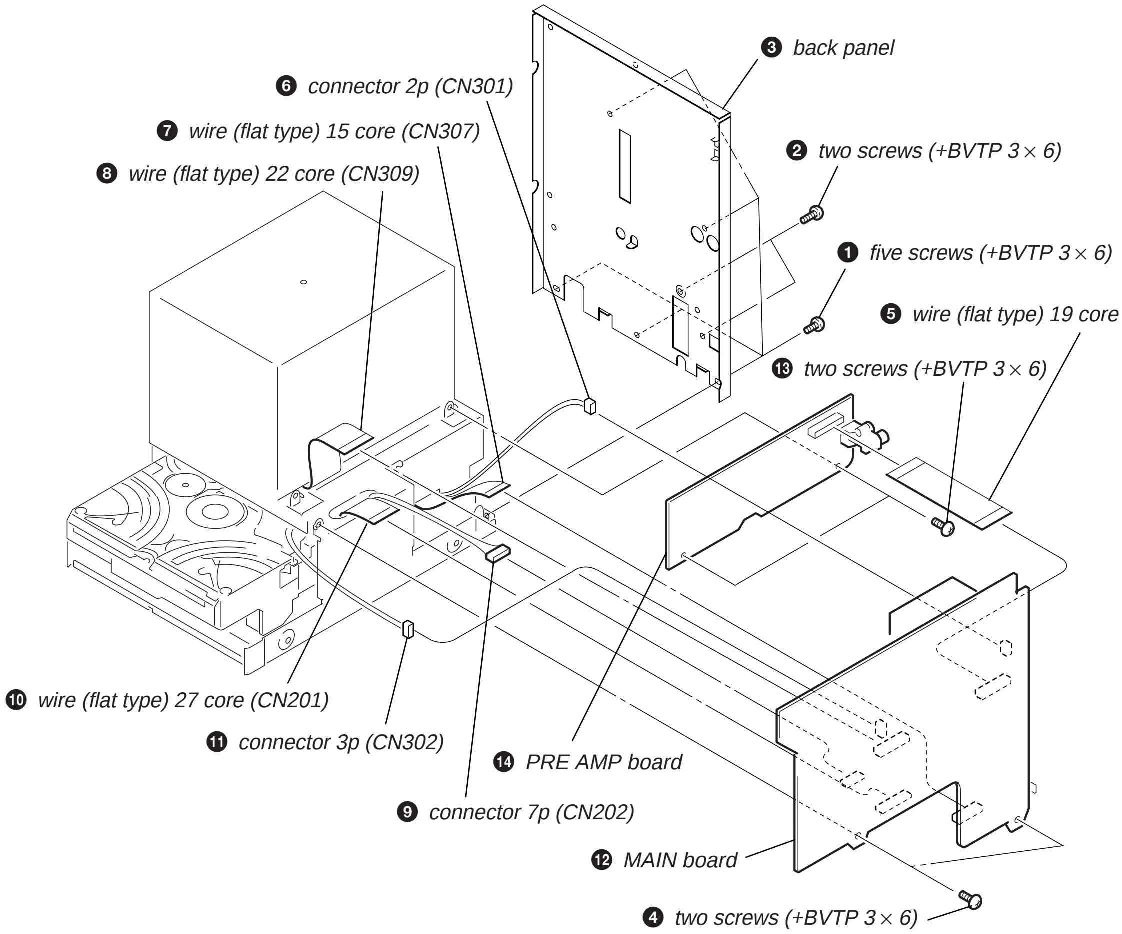
3-3. TC BOARD, MECHANICAL DECK



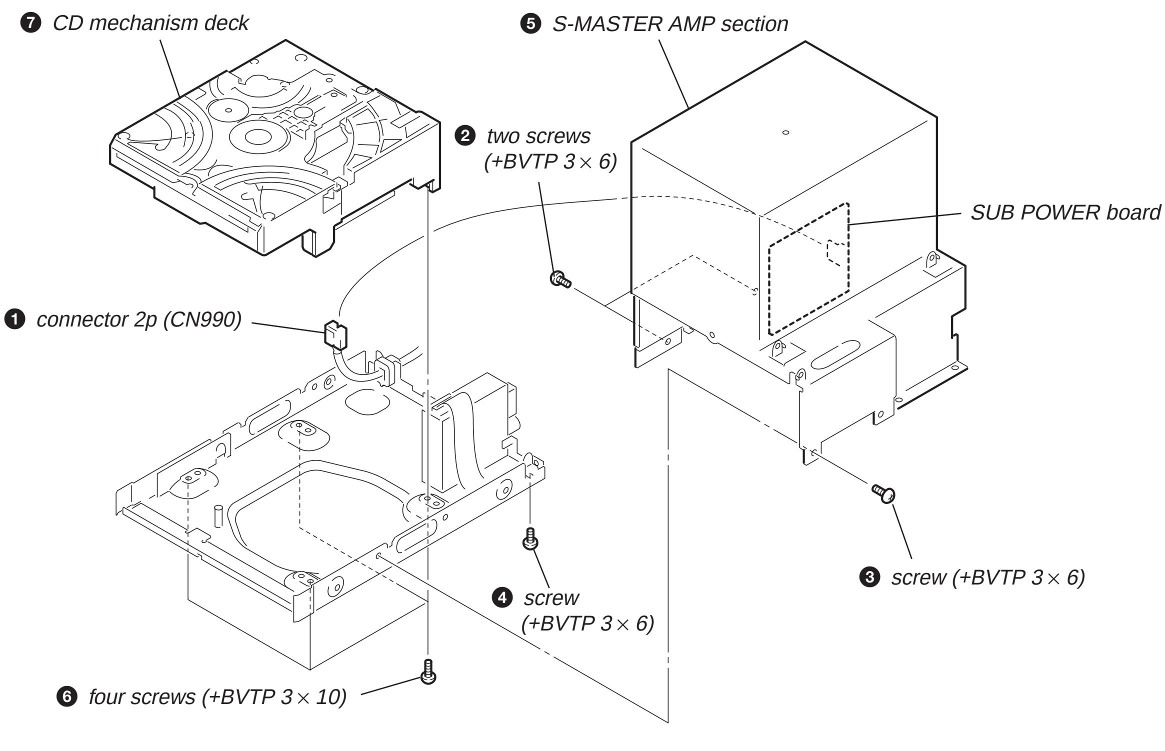
3-4. PANEL BOARD



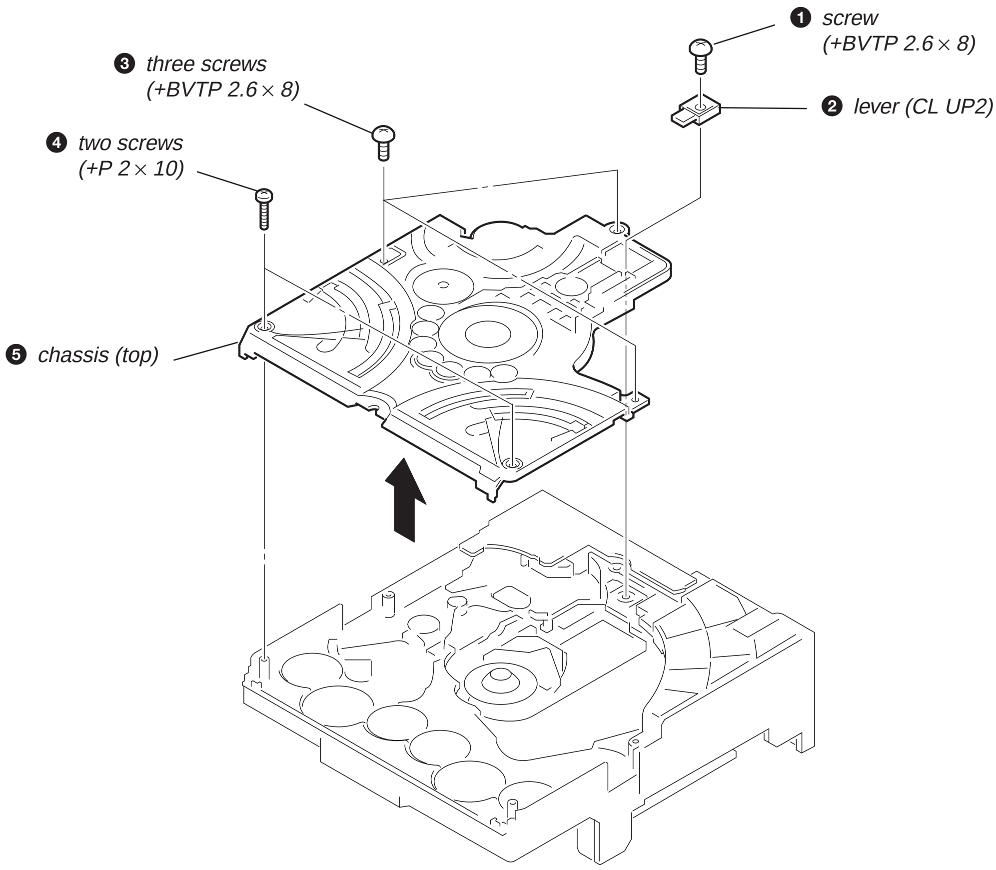
3-5. MAIN BOARD, PRE AMP BOARD



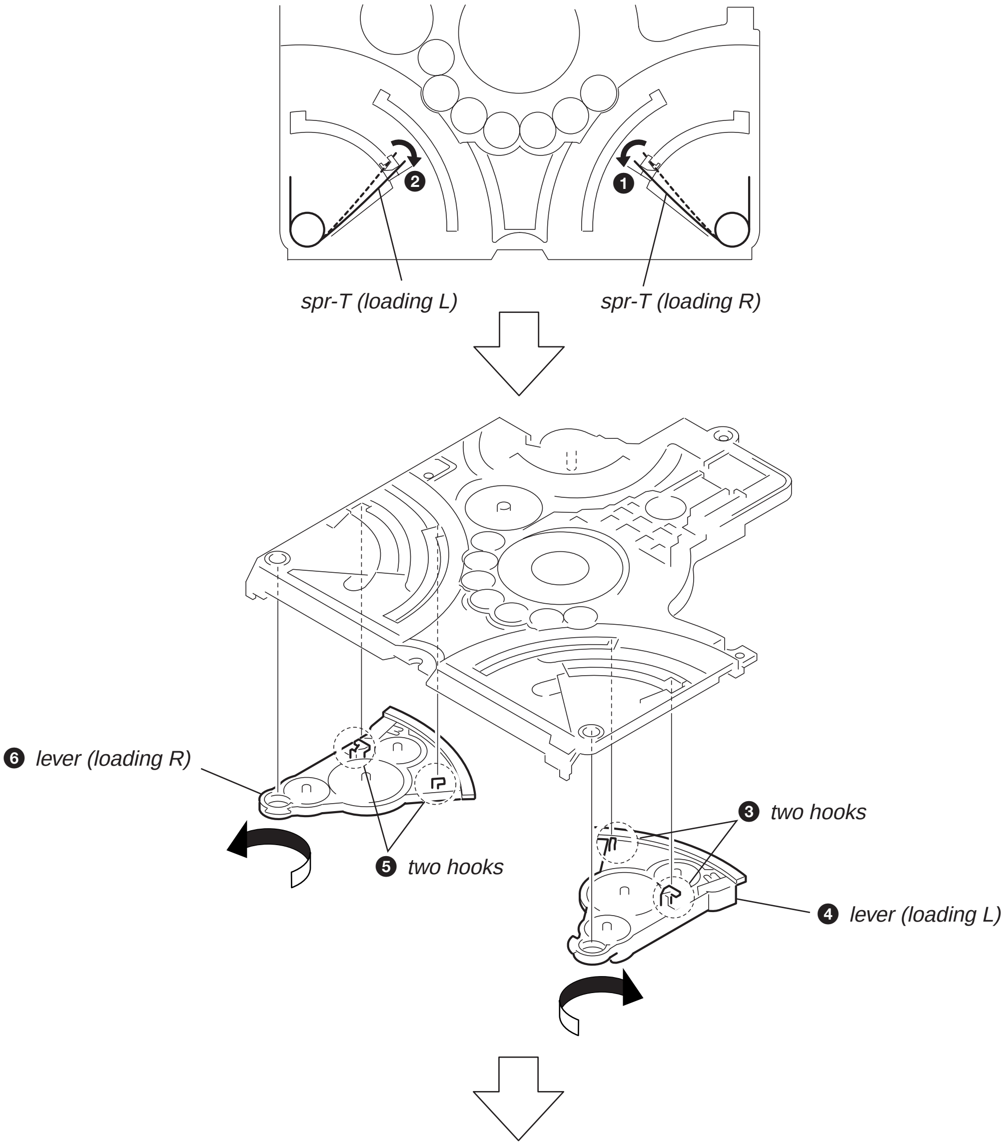
3-6. CD MECHANISM DECK (CDM80BH-F1BD81)



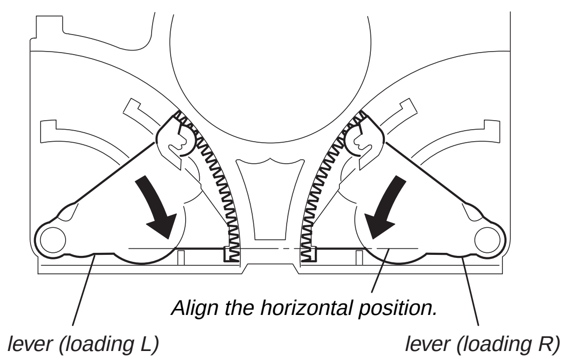
3-7. CHASSIS (TOP)



3-8. LEVER (LOADING R/L)

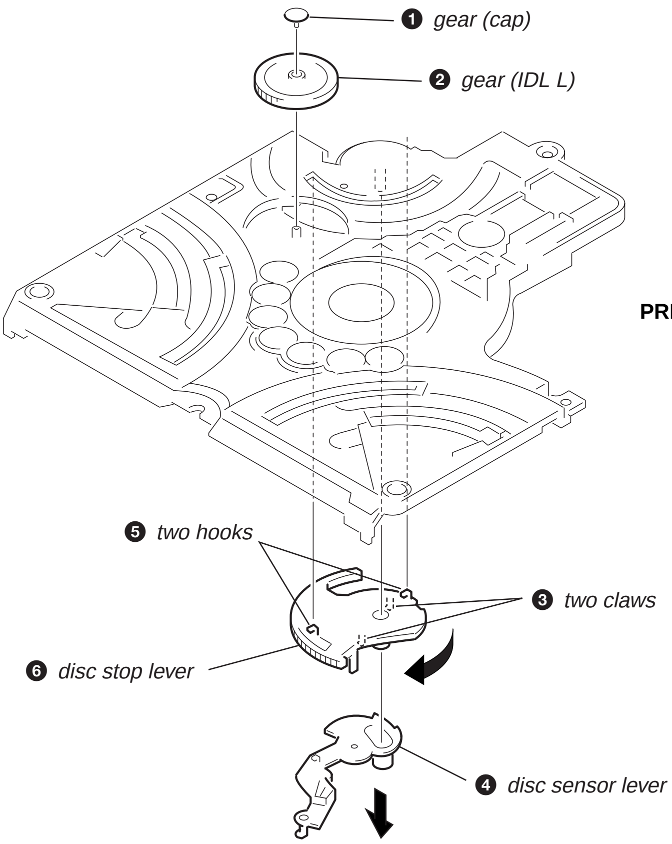


PRECAUTION DURING LEVER (LOADING R / L) INSTALLATION

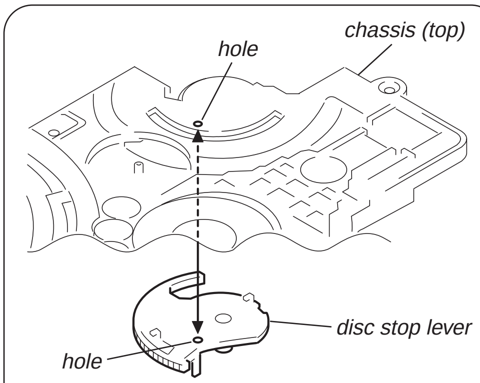


Install the both levers so that they move symmetrically.

3-9. DISC STOP LEVER, DISC SENSOR LEVER

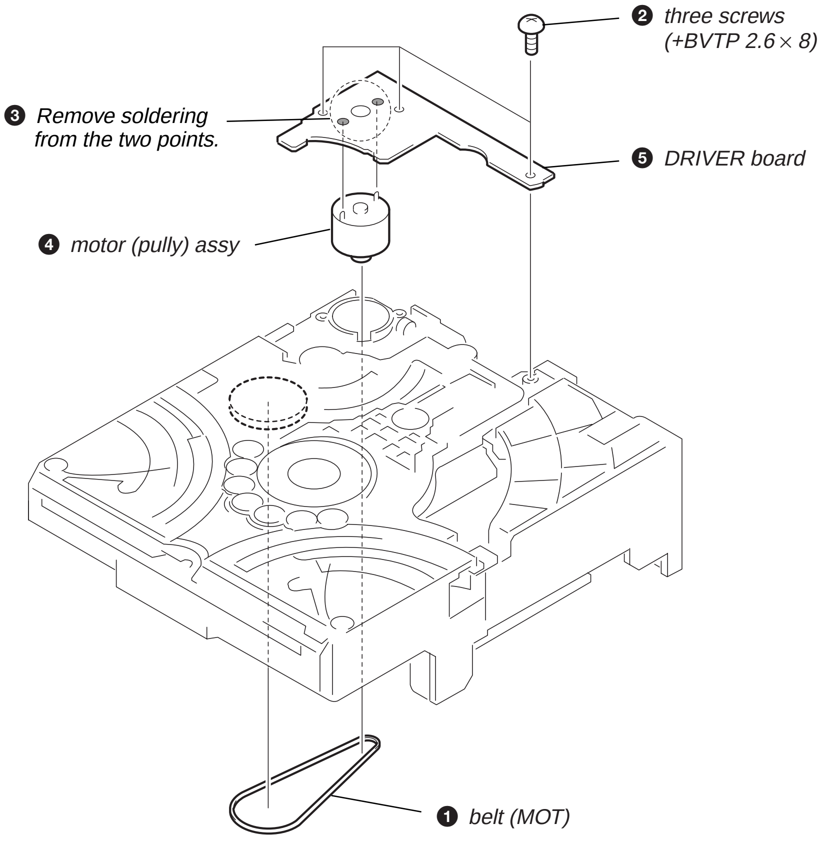


PRECAUTION DURING DISC STOP LEVER INSTALLATION

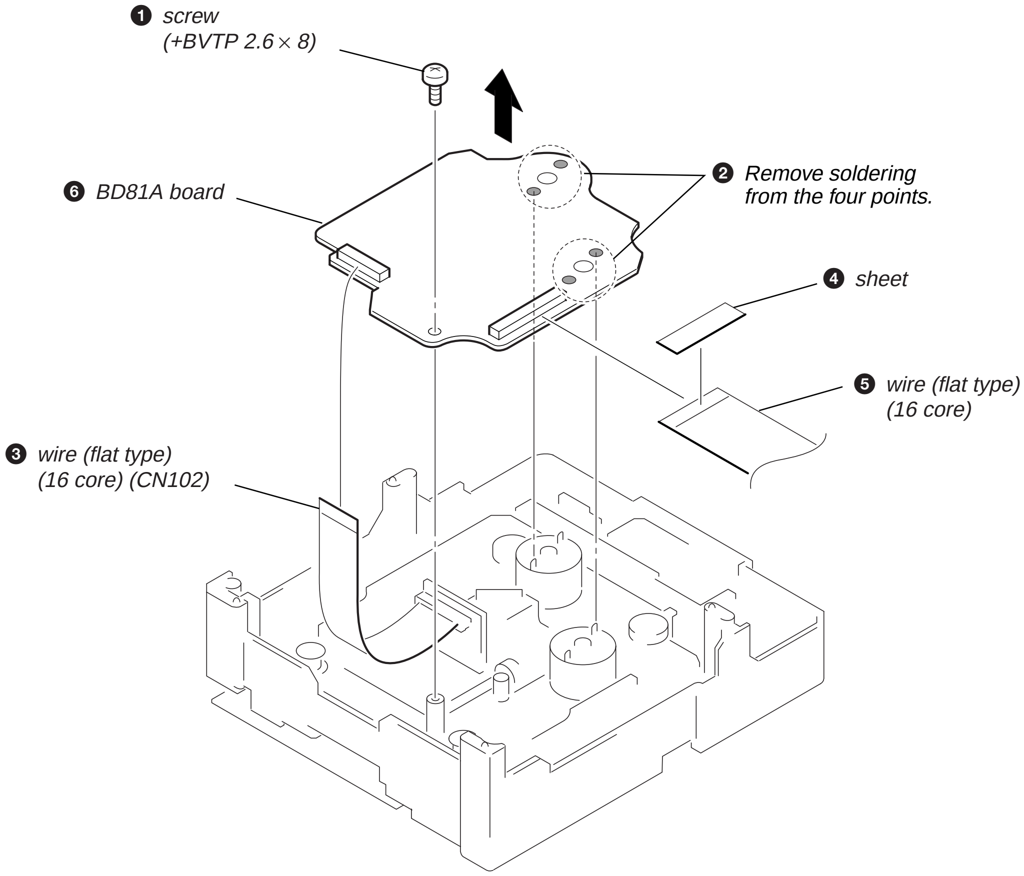


Install the disc stop lever so that the both holes are aligned.

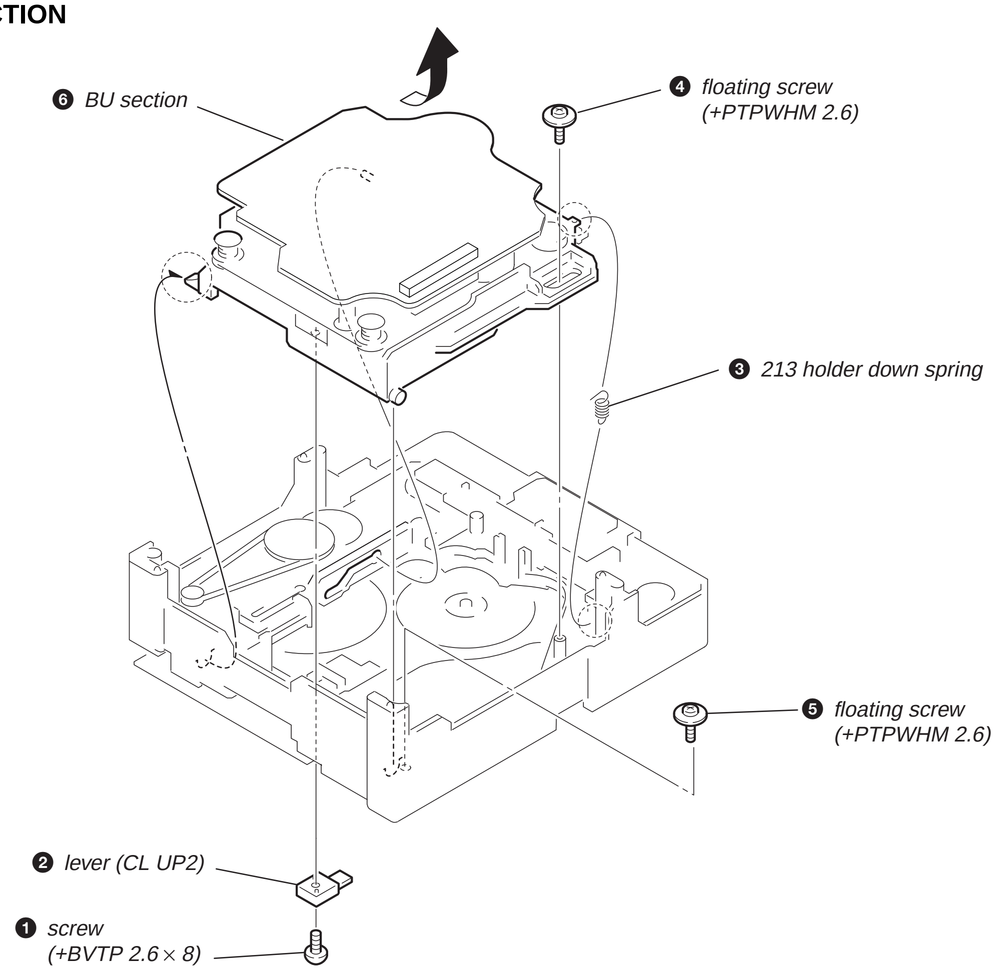
3-10. DRIVER BOARD



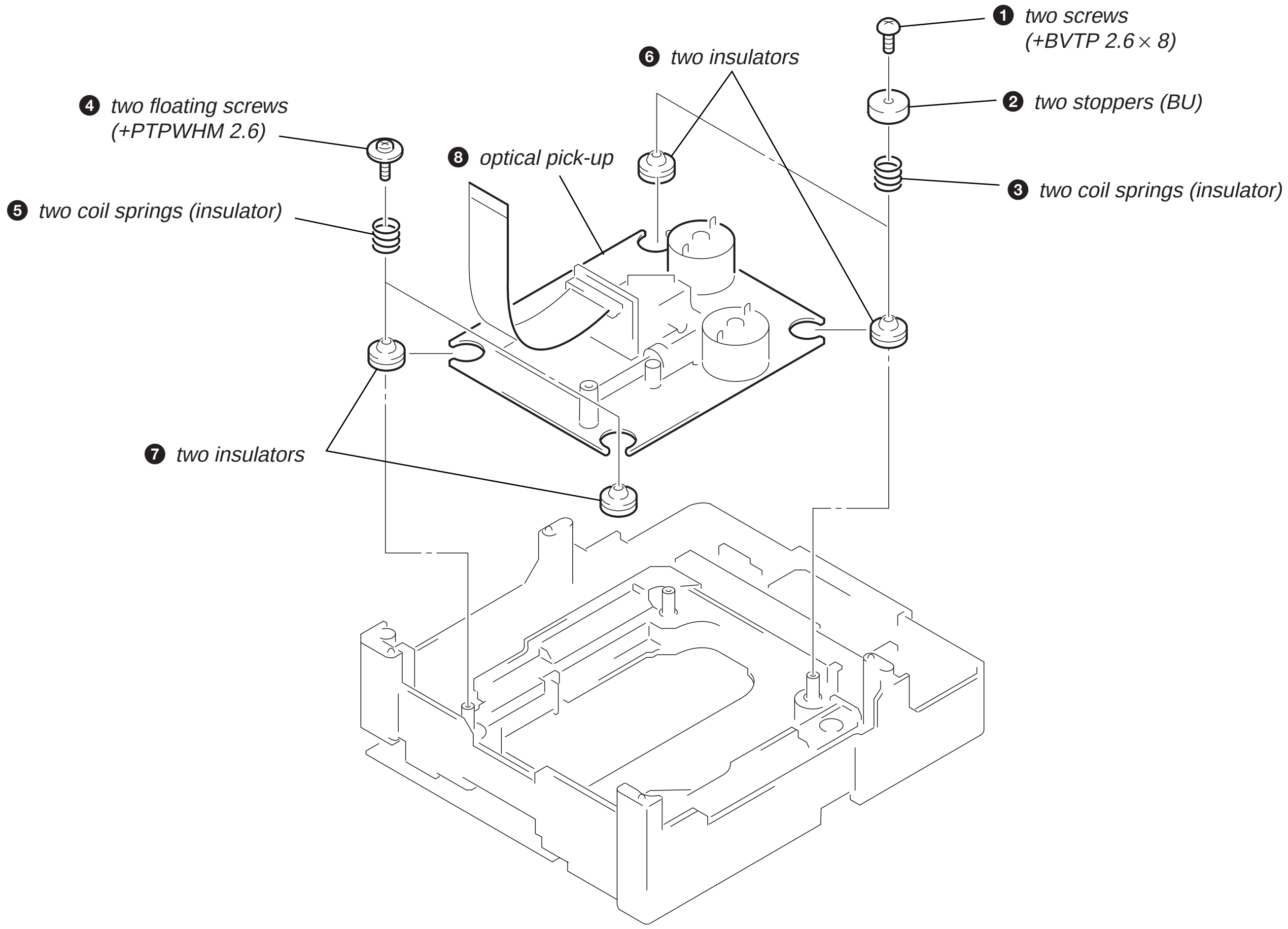
3-11. BD81A BOARD



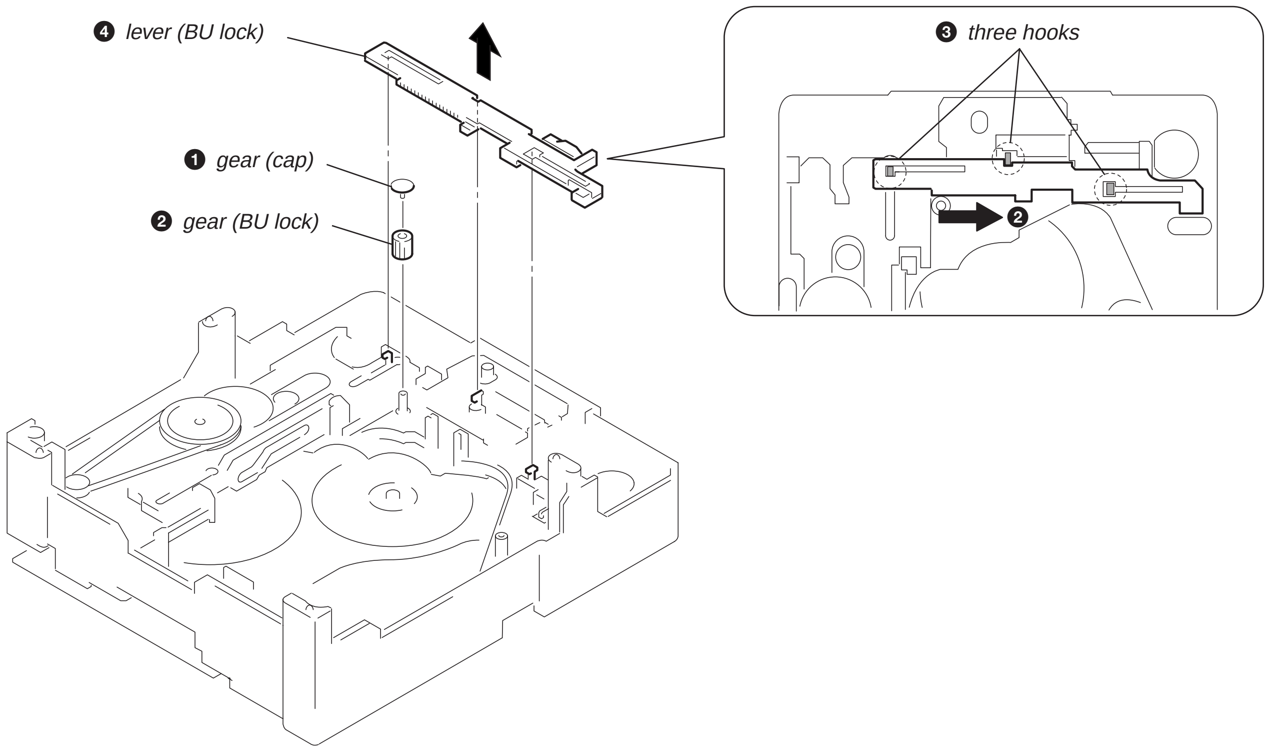
3-12. BU SECTION



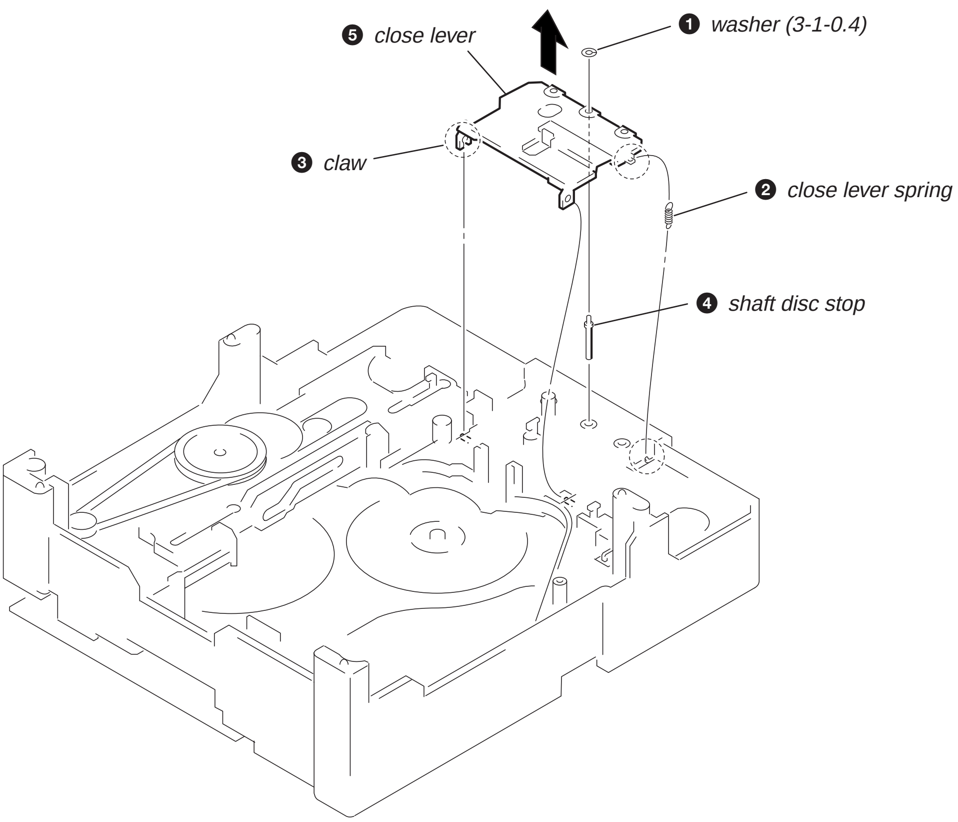
3-13. OPTICAL PICK-UP (KSM-215DCP)



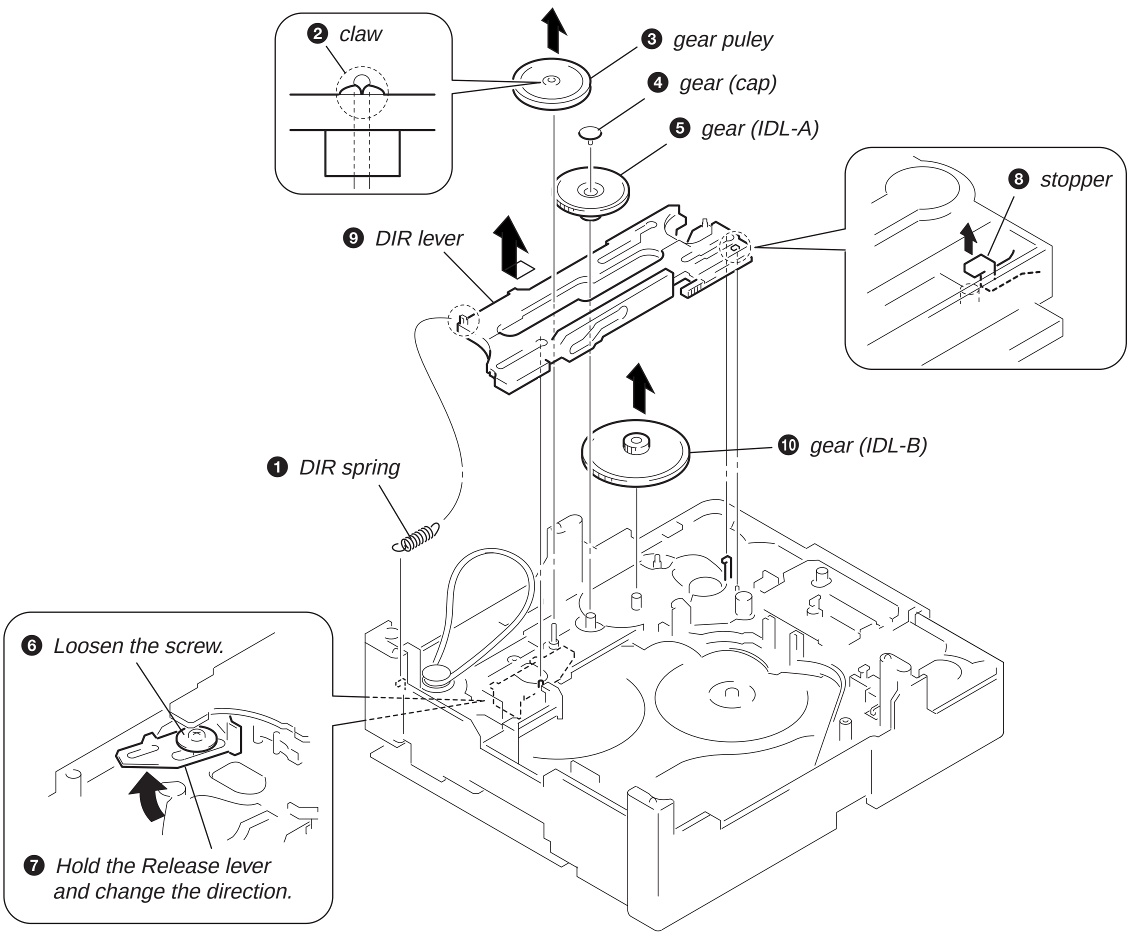
3-14. LEVER (BU LOCK)



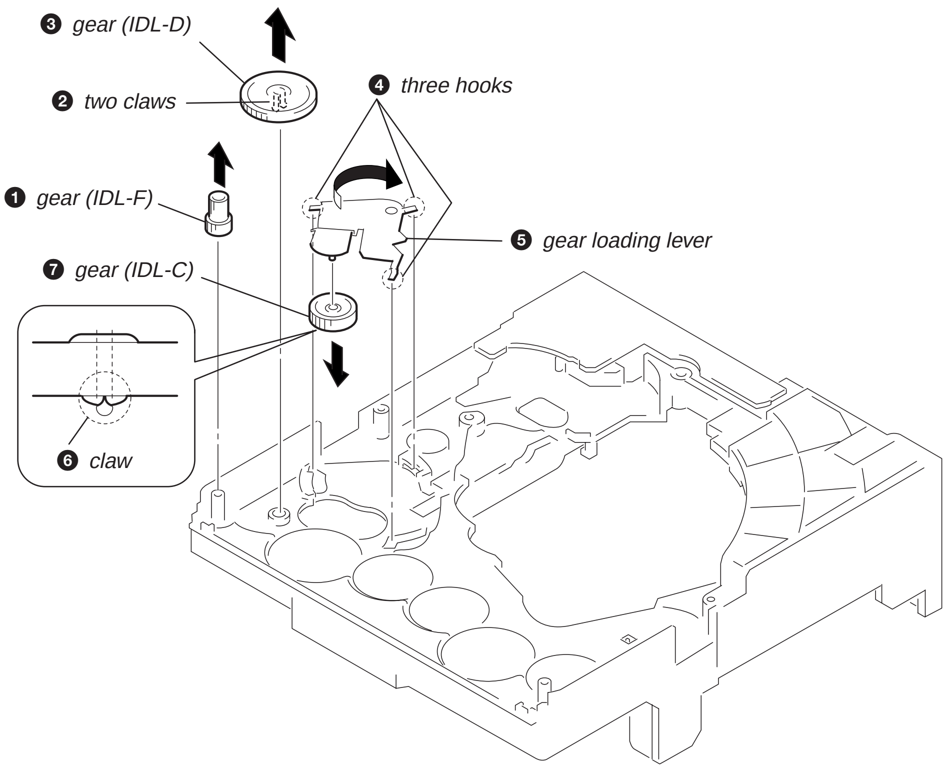
3-15. CLOSE LEVER



3-16. DIR LEVER, GEAR (IDL-B)



3-17. GEAR (IDL-C)



SECTION 4
TEST MODE

[CMN (MC) TEST MODE]

- This mode is used to check operations of Amplifier.

Procedure:

1. Press the I/⏻ key to turn the power ON.
2. Press three keys of DSGX, FUNCTION and TUNER/BAND simultaneously.
3. When the CMN (MC) test mode is activated, "⮂" blinks on the liquid crystal display.
4. Turn the BASS knob counterclockwise, "TONE MIN" is displayed on the liquid crystal display. Turn the BASS knob clockwise, "TONE MAX" is displayed on the liquid crystal display.
   Turn the TREBLE knob clockwise or counterclockwise, "TONEFLAT" is displayed on the liquid crystal display.
   Turn the VOLUME knob counterclockwise, "VOL MIN" is displayed on the liquid crystal display. Turn the VOLUME knob clockwise, "VOL MAX" is displayed on the liquid crystal display.
5. To release this mode, press the I/⏻ key.

[PANEL (GC) TEST MODE]

- This mode is used to check the liquid crystal display, LED, model, destination, software version and key.

Procedure:

1. Press the I/⏻ key to turn the power ON.
2. Press three keys of DSGX, DISPLAY and FUNCTION simultaneously.
3. Liquid crystal display and LEDs are all turned on.
4. When you want to enter the model, destination and version display mode, press the REPEAT key. The model and destination are displayed alternately on the liquid crystal display.
5. Each time REPEAT key is pressed, the display changes starting from MD version, MC version, GC version, CD version, CDD version, CDMA version, CDMB version, BDA version, BDB version, ST version, TA version, TM version, and TC version this order, and returns to the MD version display on the liquid crystal display.
6. When FUNCTION key is pressed while the version numbers are being displayed except model and destination, year, month and day of the software creation display. When FUNCTION key is pressed again, the display returns to the software version display. When REPEAT key is pressed while year, month and day of the software creation are being displayed, the year, month and day of creation of the software versions are displayed on the liquid crystal display in the same order of version display.
7. Press the PLAY MODE/DIRECTION key, the key check mode is activated.
8. In the key check mode, the liquid crystal display displays "K0". Each time a key is pressed, "K" value increases. However, once a key is pressed, it is no longer taken into account.
9. To release this mode, press three keys in the same manner as step 2, or disconnect the power cord.

[COLD RESET]

- The cold reset clears all data including preset data stored in the RAM to initial conditions. Execute this mode when returning the set to the customer.

Procedure:

1. Press the I/⏻ key to turn the power ON.
2. Press three keys of I/⏻, ■ (CD) and ■ (TAPE) simultaneously.
3. The liquid crystal display becomes blank instantaneously, and the set is reset.

[SHIP MODE (NO MEMORY CLEAR)]

- This mode moves the optical pick-up to the position durable to vibration. Use this mode when returning the set to the customer after repair.

Procedure:

1. Press the I/⏻ key to turn the power ON.
2. Press the FUNCTION key to select "CD".
3. Press three keys of DSGX, CD ►II and DISPLAY simultaneously.
4. After the "STANDBY" display blinks, "LOCK" is displayed on the liquid crystal display, and the ship mode is set.

[SHIP MODE (MEMORY CLEAR)]

- This mode moves the optical pick-up to the position durable to vibration. Use this mode when returning the set to the customer after repair.

Procedure:

1. Press the I/⏻ key to turn the power ON.
2. Press the FUNCTION key to select "CD".
3. Press three keys of DSGX, ■(CD) and DISPLAY simultaneously.
4. After the "STANDBY" display blinks, "LOCK" is displayed on the liquid crystal display, and the ship mode is set.

[CD TRAY LOCK MODE]

- This mode is used to unable to take sample disc out of tray in the shop.

Procedure:

1. Press the I/⏻ key to turn the power ON.
2. Press the FUNCTION key to select "CD".
3. While pressing the ⏏ (CD) key, press the ■(CD) key for 5 seconds.
4. The message "LOCKED" is displayed on the liquid crystal display and the tray is locked. (Even if pressing the ⏏(CD) key, the message "LOCKED" is displayed on the liquid crystal display and the tray is locked)
5. To release from this mode, pressing the ⏏ (CD) key, press the ■ (CD) key for 5 seconds.
6. The message "UNLOCKED" is displayed on the liquid crystal display and the tray is unlocked.

[TUNER STEP CHANGE MODE]
(Singapore, Korean and Australian models)

- A step of AM channels can be changed over between 9 kHz and 10 kHz.

Procedure:

1. Press the I/⏻ key to turn the power ON.
2. Press the FUNCTION key to select "TUNER", and press the TUNER/BAND key to select "AM".
3. Press the I/⏻ key to turn the power OFF.
4. Press two keys of I/⏻ and ►► ▷▷I simultaneously.
5. The message "AM 9K STEP" or "AM 10K STEP" is displayed on the liquid crystal display, and thus the channel step is changed over.

[CD SERVICE MODE]

- This mode can run the CD sled motor freely. Use this mode, for instance, when cleaning the optical pick-up.

Procedure:

1. Press the I/⏻ key to turn the power ON.
2. Press the FUNCTION key to select "CD".
3. Press three keys of PLAY MODE , FUNCTION and ■ (TAPE) simultaneously.
4. Press the ►► ▷▷I key to move the optical pick-up to outside track, or press the I◁◁ ◄◄ key to inside track.
5. To release this mode, press the I/⏻ key.

[CD ERROR CODE MODE]

- This mode can be used for error display of CD section.

Procedure:

1. Press the [I/⏻] key to turn the power ON.
2. Press the [FUNCTION] key to select "CD".
3. Press three keys of [REPEAT], [FUNCTION] and [■] (TAPE) simultaneously.

Note: Error code is not displayed on the liquid crystal display.

[CD SERVO TEST MODE]

- This mode used to ckeck operation of optical pick-up.

Procedure:

1. Press the [I/⏻] key to turn the power ON.
2. Press the [FUNCTION] key to select "CD".
3. Press three keys of [DSGX] , [FUNCTION] and [■] (TAPE) simultaneously.
4. When the CD servo test mode is activated, optical pick-up moves.

[5 REPEAT OFF MODE]

- Number of repeat for CD playback is 5 times when the repeat mode is "REPEAT". This mode is used to enables CD to repeat playback for limitless times.

Procedure:

1. Press the [I/⏻] key to turn the power on.
2. Press the [FUNCTION] key to select "CD".
3. Press three keys of [DSGX] , [FUNCTION] and [⏏] (CD) simultaneously.
4. When the 5 repeat off mode is activated, "LIMIT OF" is displayed on the liquid crystal display.

[CHANGE-OVER FUNCTION OF EXTERNAL INPUT]

- This mode is used to enable function of external input to change over between MD and VIDEO.

Procedure:

1. Set to standby state.
2. Press two keys of [I/⏻] and [FUNCTION] simultaneously.
3. The function of external input changes over to MD or VIDEO.

SECTION 5
ELECTRICAL ADJUSTMENTS

DECK SECTION | 0 dB = 0.775 V

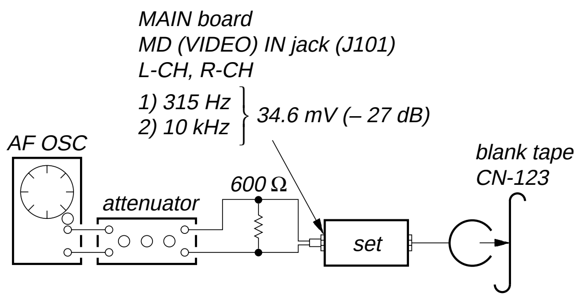
Note:
Confirm each contents of this section first of all. If the results are not satisfied, do the adjustment.

1. The adjustments should be performed with the rated power supply voltage unless otherwise noted.
2. The adjustments should be performed in the order given in this service manual.
3. The adjustments should be performed for both L-CH and R-CH.

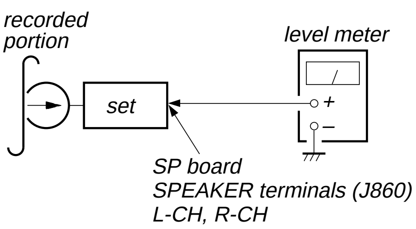
REC BIAS ADJUSTMENT

Procedure:

1. Press the FUNCTION key to select “MD” or “VIDEO”.
2. Set the tape into the deck.
3. After pressing ● REC key, press ❚❚ (TAPE) key to start recording.
4. Mode: Record



5. Mode: Playback

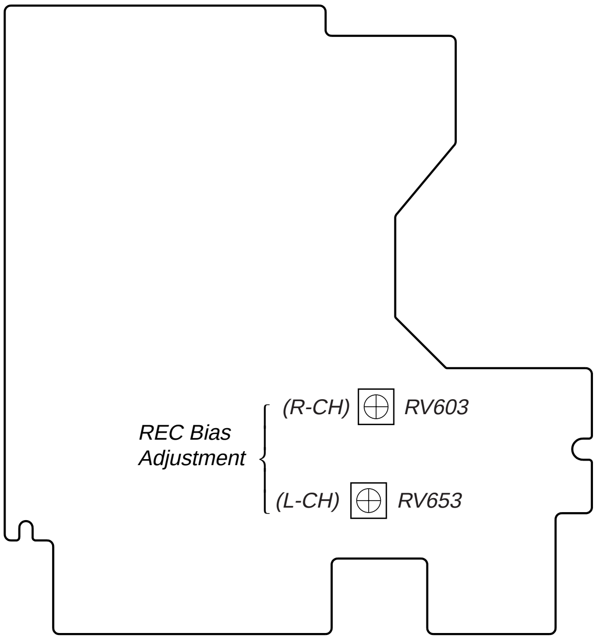


6. Confirm the playback signal recorded in step 3 becomes adjustable level as follows.
   If these levels are out of specified values, adjust the RV653 (L-CH) and RV603 (R-CH) on the TC board to repeat steps 4 and 5.

Specified values: Playback output of 315 Hz to playback output of 10 kHz: ± 2.0 dB

Adjustment Location: TC board

– TC BOARD (Component Side) –

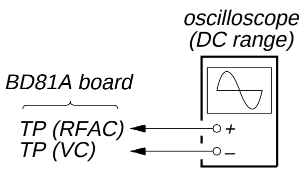


CD SECTION

Note:

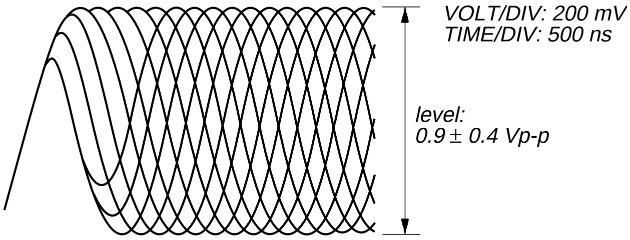
1. CD Block is basically constructed to operate without adjustment.
2. Use YEDS-18 disc (3-702-101-01) unless otherwise indicated.
3. Use an oscilloscope with more than 10 MΩ impedance.
4. Clean the object lens by an applicator with neutral detergent when the signal level is low than specified value with the following checks.
5. Check the focus bias check when optical pick -up block is replaced.

FOCUS BIAS CHECK



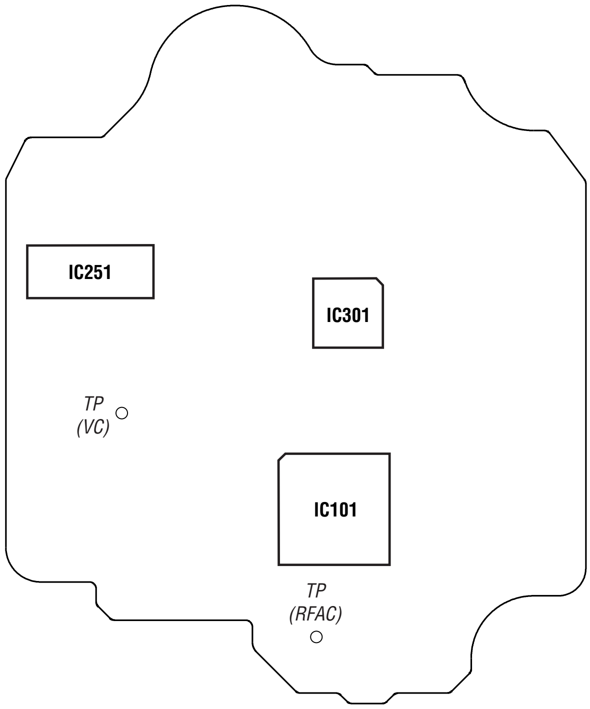
Procedure :

1. Connect oscilloscope to TP (RFAC) and TP (VC) on the BD81A board.
2. Press the [I/⏻] button to turn the power ON, and press the [⏏] (CD) button to open the CD disc tray.
3. Set disc (YEDS-18) on the tray and press the [CD ►II] button to playback.
4. Confirm that oscilloscope waveform is as shown in the figure below. (eye pattern)
   A good eye pattern means that the diamond shape (◊) in the center of the waveform can be clearly distinguished.



Checking Location:

– BD81A BOARD (Side B) –



MEMO

SECTION 6
DIAGRAMS

THIS NOTE IS COMMON FOR PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS.
(In addition to this, the necessary note is printed in each block.)

For Schematic Diagrams.
Note:
- All capacitors are in µF unless otherwise noted. (p: pF) 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- Δ : internal component.
- : fusible resistor.
- : panel designation.

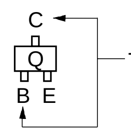
Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

- : B+ Line.
- : adjustment for repair.
- Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
  no mark: TUNER (FM)
  ( ) : CD PLAY
  [ ] : TAPE PLAY
  《 》: REC
- Voltages are taken with a VOM (Input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope.
  Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  : TUNER (FM/AM)
  : CD PLAY (ANALOG)
  : CD PLAY (DIGITAL)
  : TAPE PLAY
  : REC
  : MD (VIDEO) IN
- Abbreviation
  AUS : Australian model.
  KR : Korean model.

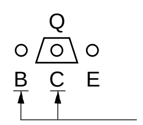
For Printed Wiring Boards.
Note:
- : parts extracted from the component side.
- : parts extracted from the conductor side.
- : indicates side identified with part number.
- Δ : internal component.
- : Pattern from the side which enables seeing.
  (The other layers' patterns are not indicated.)

Caution:
Pattern face side: Parts on the pattern face side seen from
(Side B) the pattern face are indicated.
Parts face side: Parts on the parts face side seen from
(Side A) the parts face are indicated.

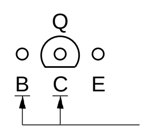
- Indication of transistor.



These are omitted.

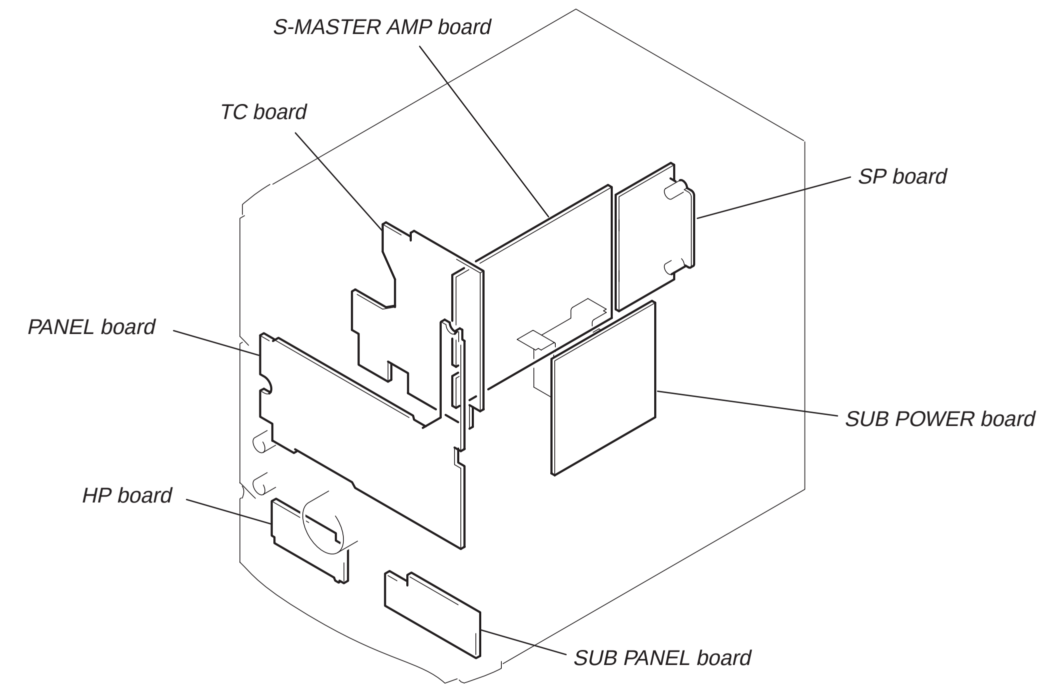


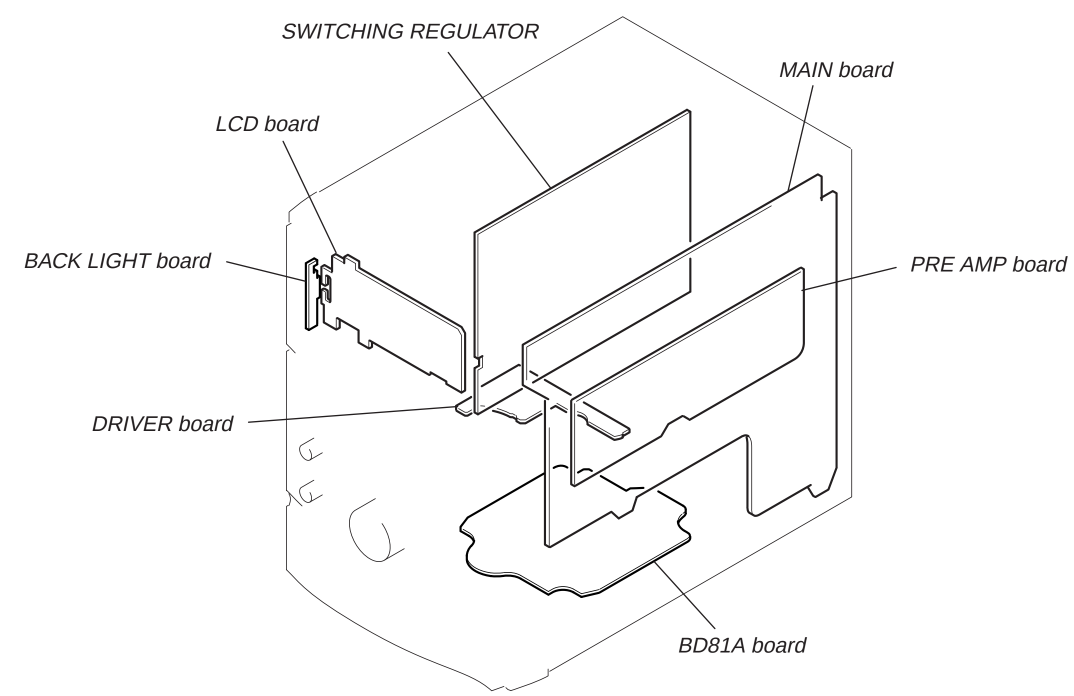
These are omitted.



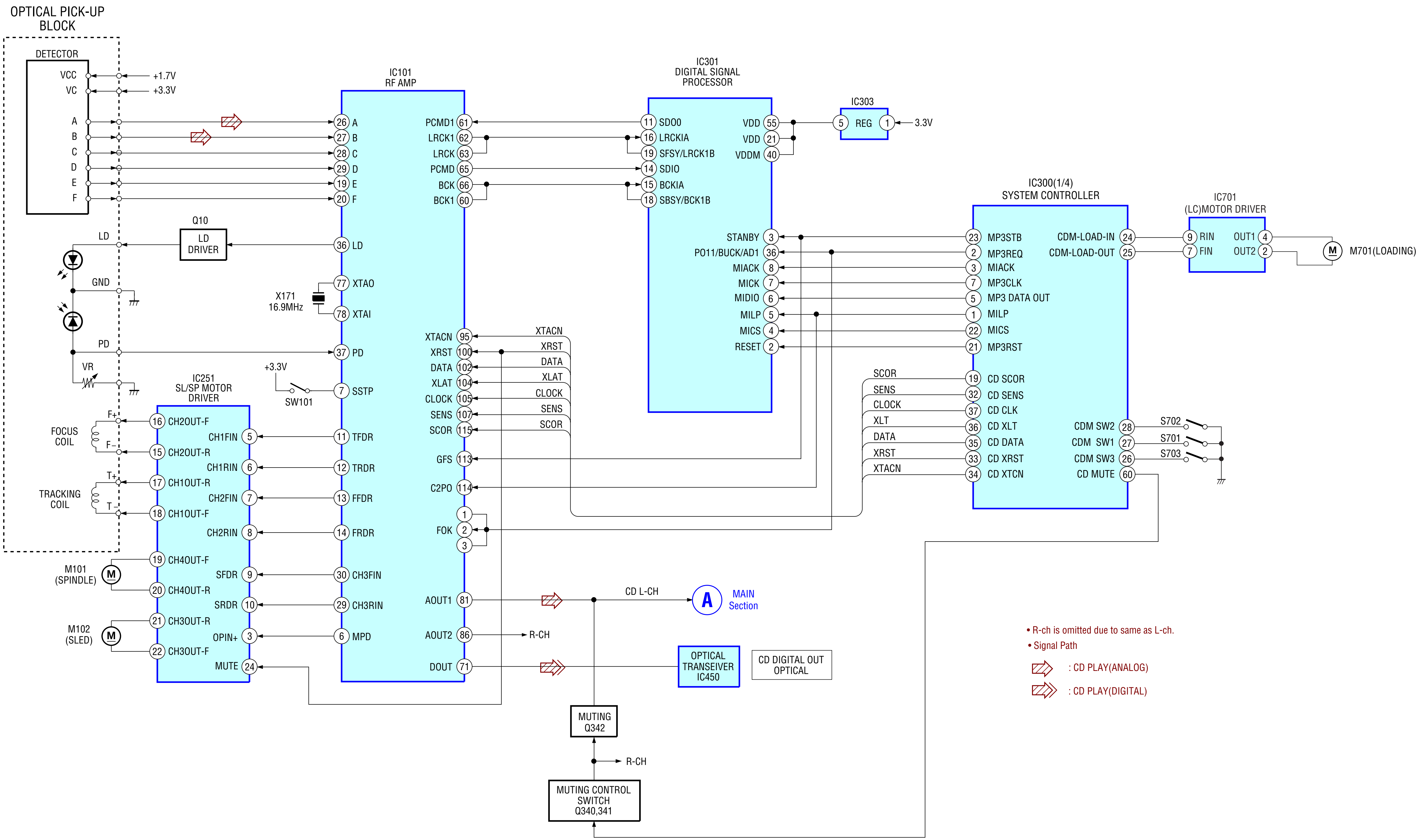
These are omitted.

- **Circuit Boards Location**

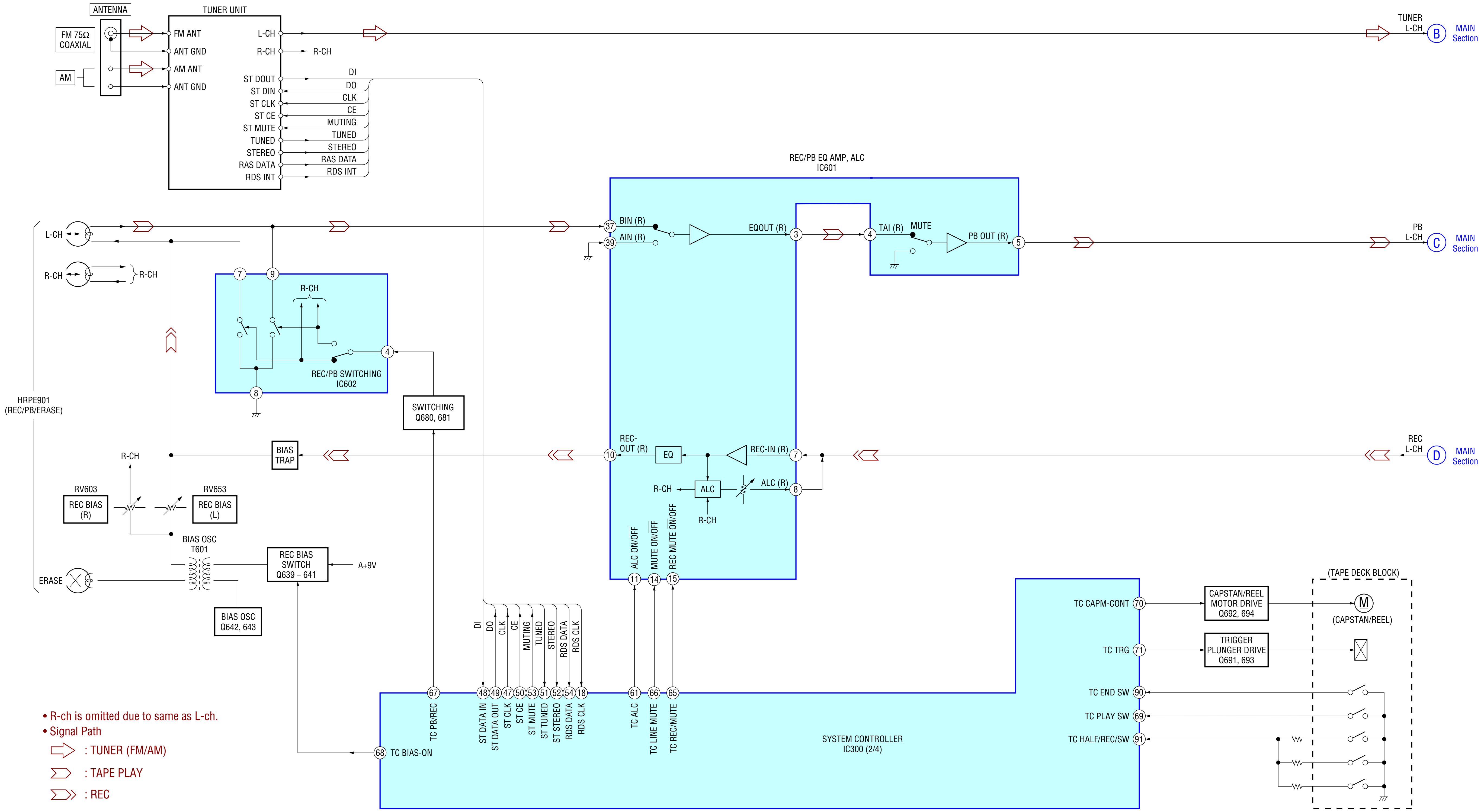




6-1. BLOCK DIAGRAM — BD/DRIVER SECTION —

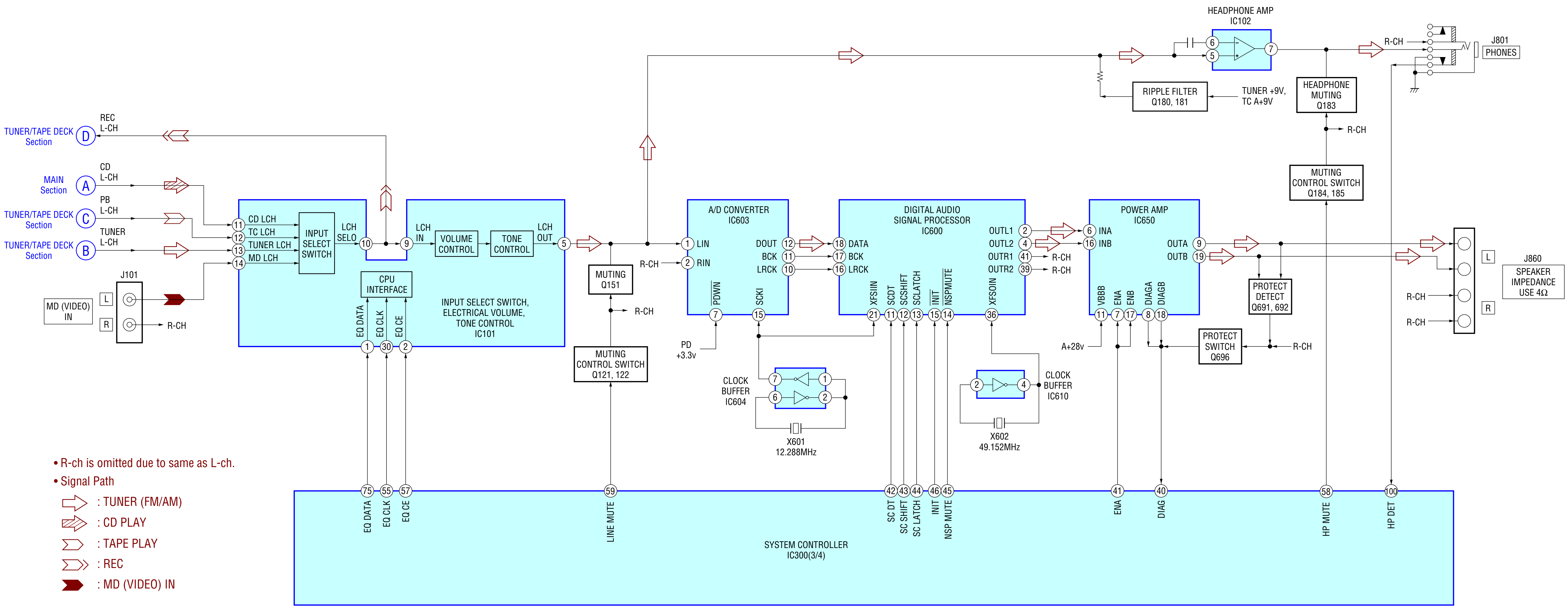


— TUNER/TAPE DECK SECTION —



• R-ch is omitted due to same as L-ch.
• Signal Path
: TUNER (FM/AM)
: TAPE PLAY
: REC

— MAIN SECTION —



• R-ch is omitted due to same as L-ch.

• Signal Path

: TUNER (FM/AM)

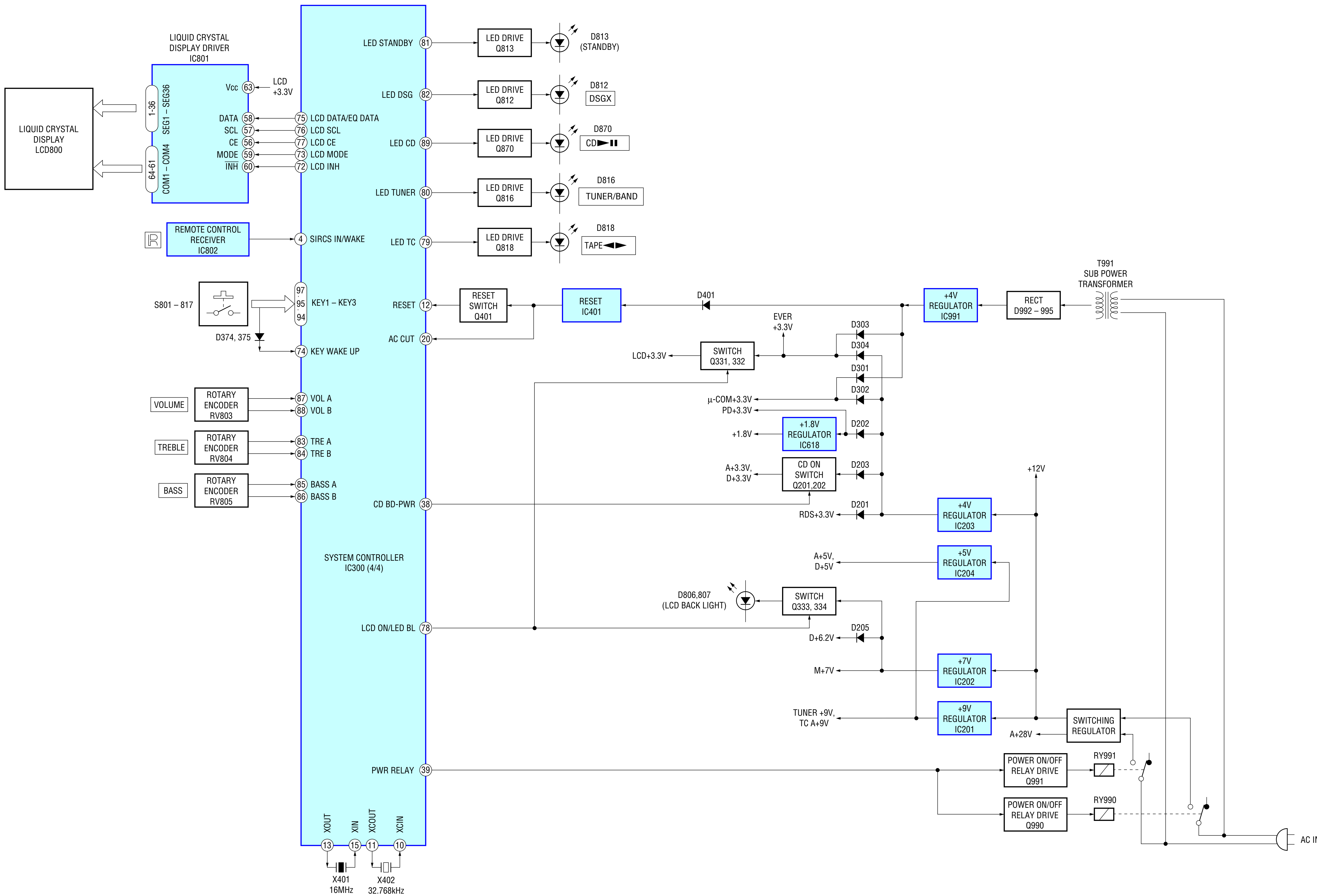
: CD PLAY

: TAPE PLAY

: REC

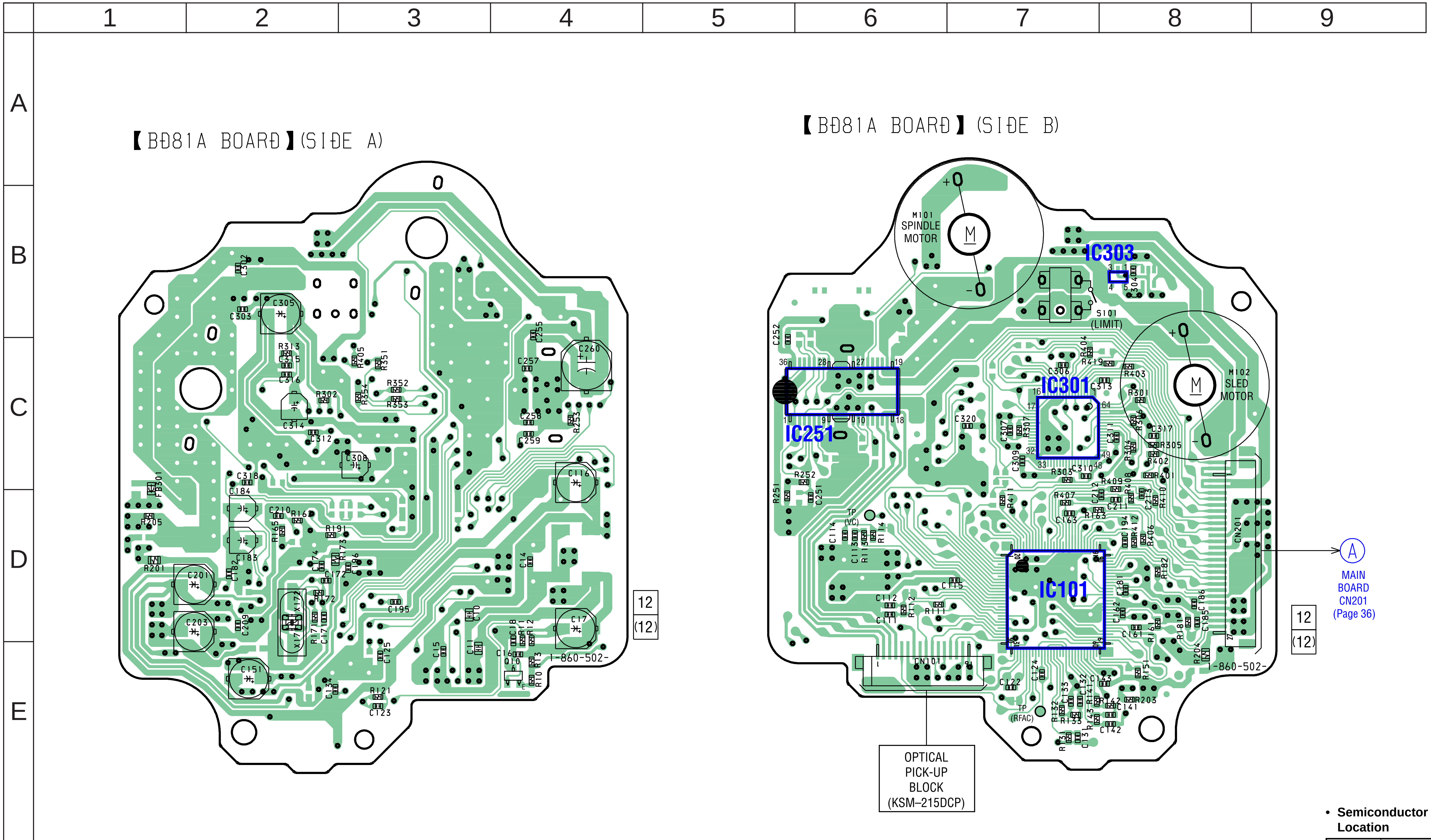
: MD (VIDEO) IN

— DISPLAY/POWER SUPPLY SECTION —



6-2. PRINTED WIRING BOARD — BD81A SECTION —

• See page 27 for Circuit Boards Location. :Uses unleaded solder.

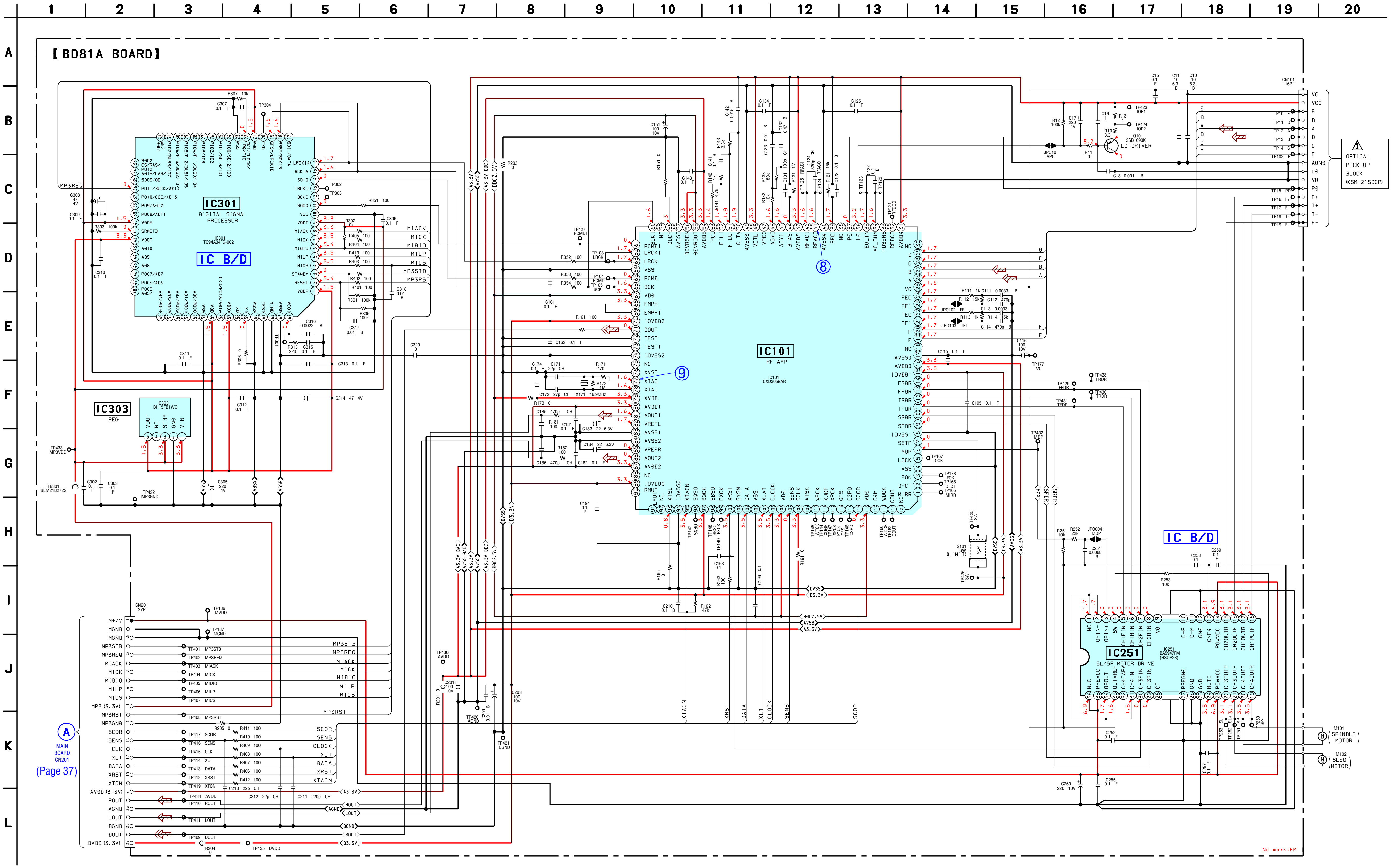


• **Semiconductor Location**

Ref. No.	Location
IC101	D-7
IC251	C-6
IC301	C-7
IC303	B-7
Q10	E-4

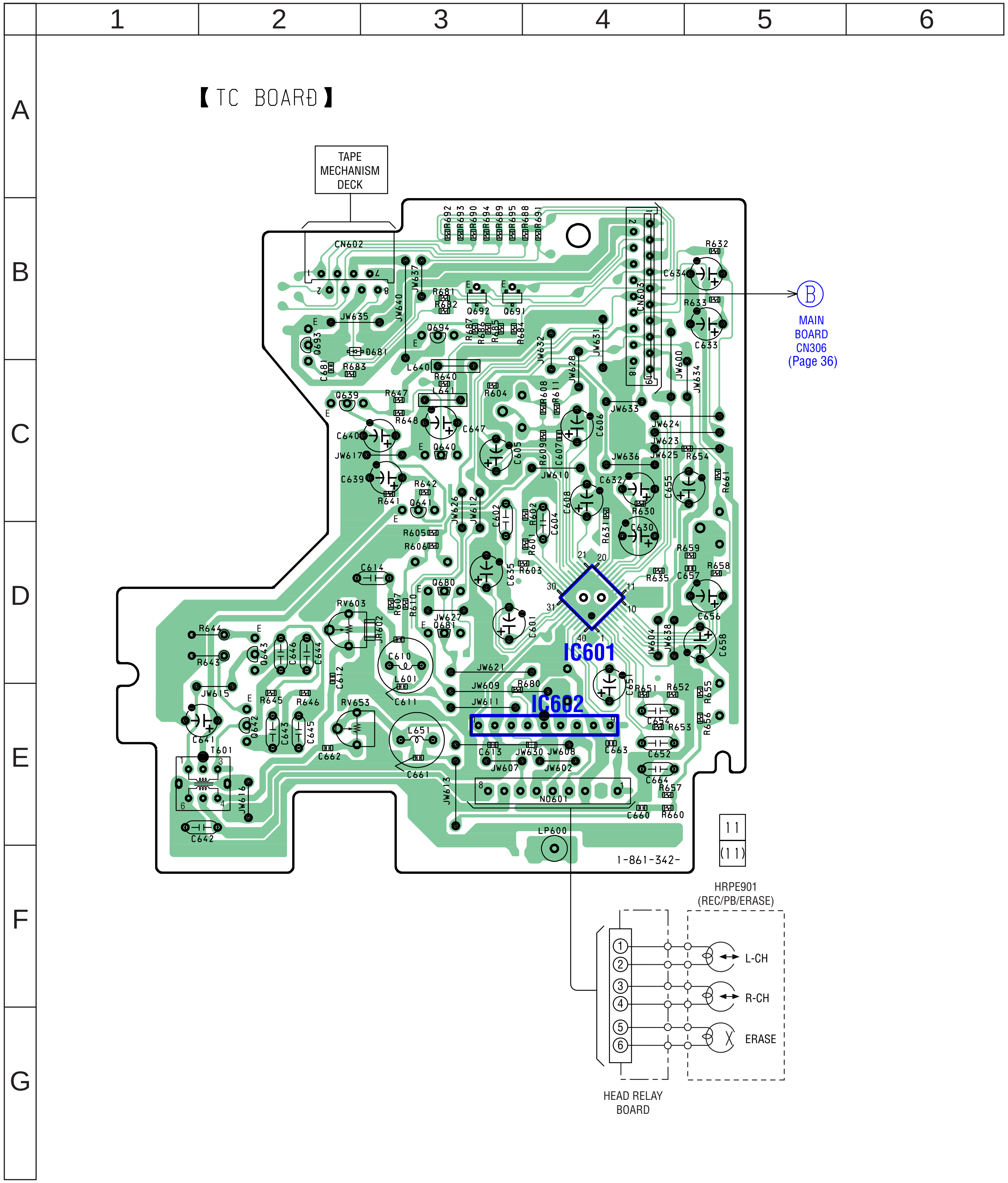
6-3. SCHEMATIC DIAGRAM — BD81A SECTION —

• Refer to page 51 for IC PIN FUNCTION DESCRIPTION.



6-4. PRINTED WIRING BOARD — TC SECTION —

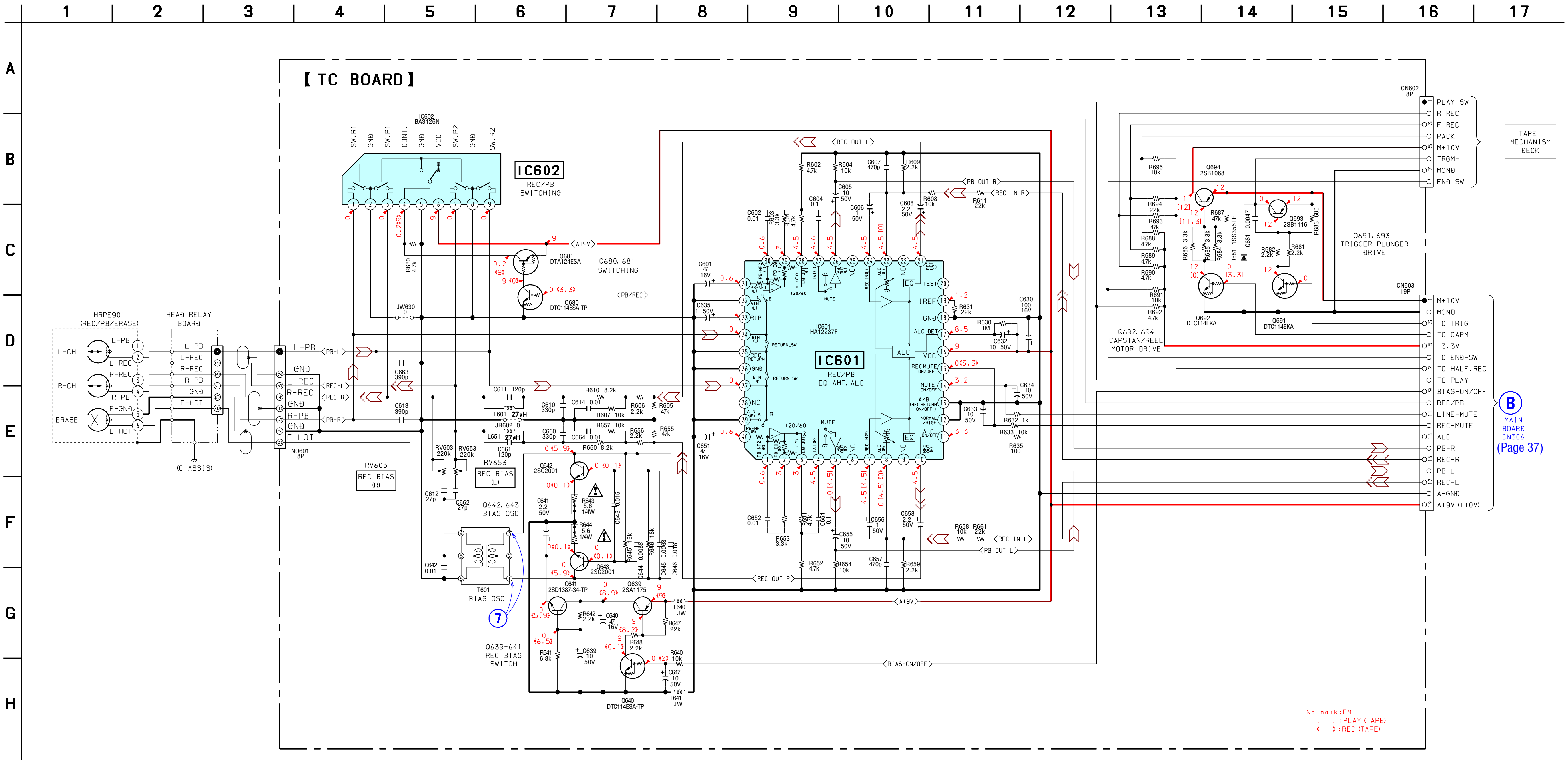
• See page 27 for Circuit Boards Location. :Uses unleaded solder.



• **Semiconductor Location**

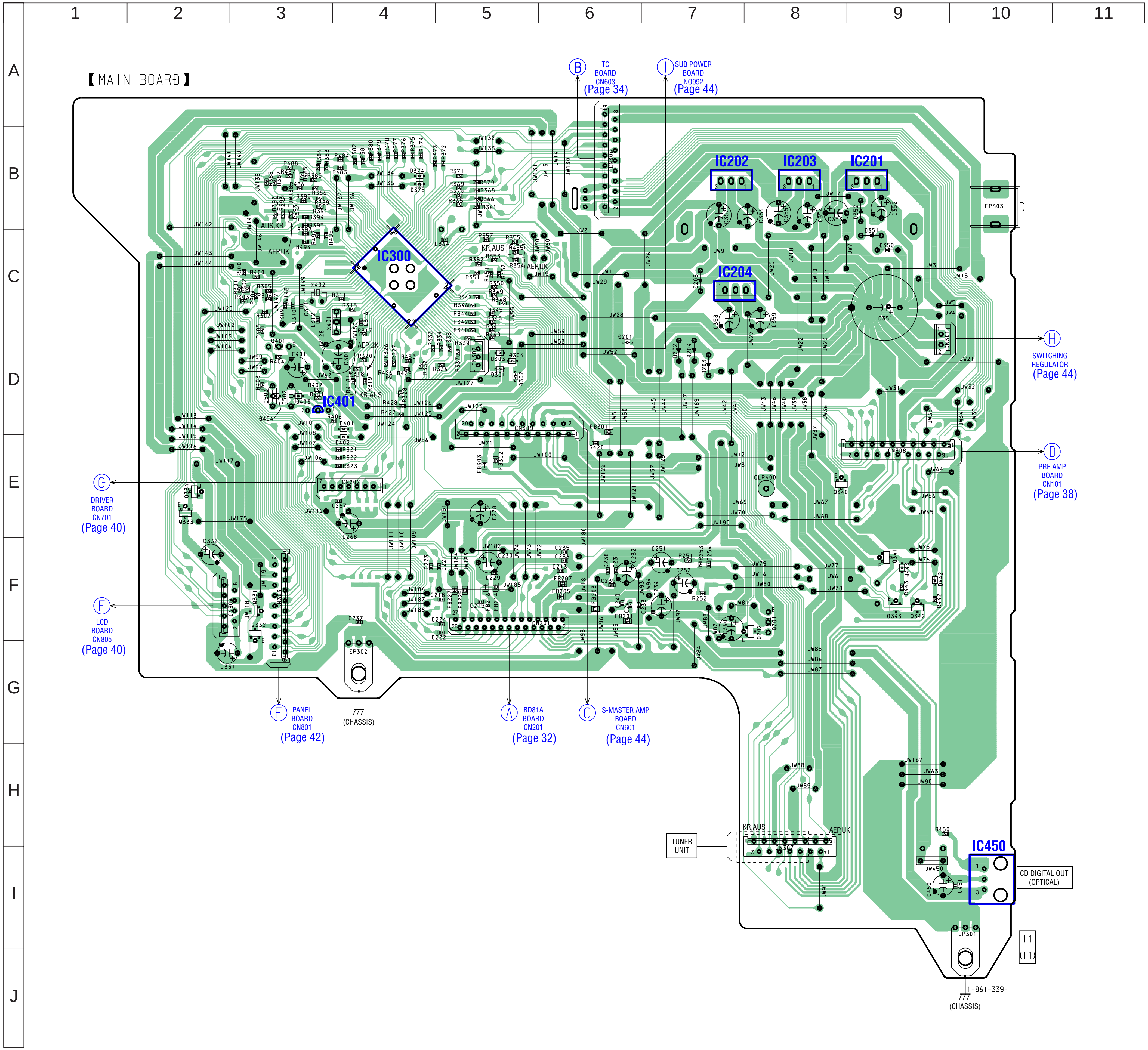
Ref. No.	Location
D681	B-3
IC601	D-4
IC602	E-4
Q639	C-2
Q640	C-3
Q641	C-3
Q642	E-2
Q643	D-2
Q680	D-3
Q681	D-3
Q691	B-3
Q692	B-3
Q693	B-2
Q694	B-3

6-5. SCHEMATIC DIAGRAM — TC SECTION —



6-6. PRINTED WIRING BOARD — MAIN SECTION —

• See page 27 for Circuit Boards Location. :Uses unleaded solder.

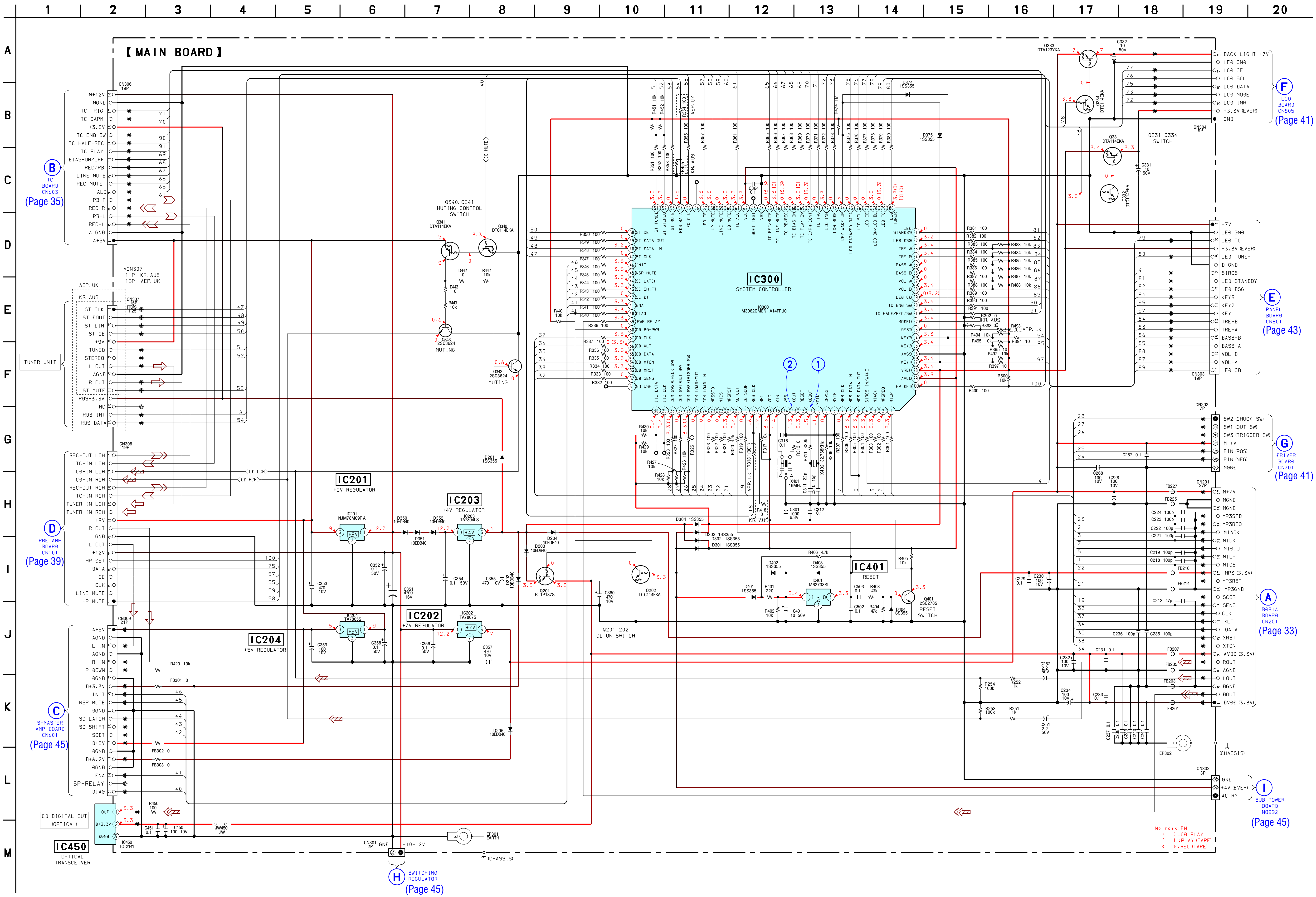


• **Semiconductor Location**

Ref. No.	Location
D201	D-6
D202	D-7
D203	D-7
D204	D-7
D205	C-7
D301	D-5
D302	D-5
D303	D-5
D304	D-5
D350	C-9
D351	C-9
D352	B-9
D374	B-4
D375	B-4
D401	D-4
D402	E-4
D403	D-3
D404	D-3
D442	F-9
D443	F-9
IC201	B-9
IC202	B-7
IC203	B-8
IC204	B-9
IC300	C-4
IC401	D-3
IC450	I-10
Q201	F-8
Q202	F-7
Q331	F-3
Q332	F-3
Q333	E-2
Q334	E-2
Q340	E-8
Q341	E-9
Q342	F-9
Q343	F-9
Q401	D-3

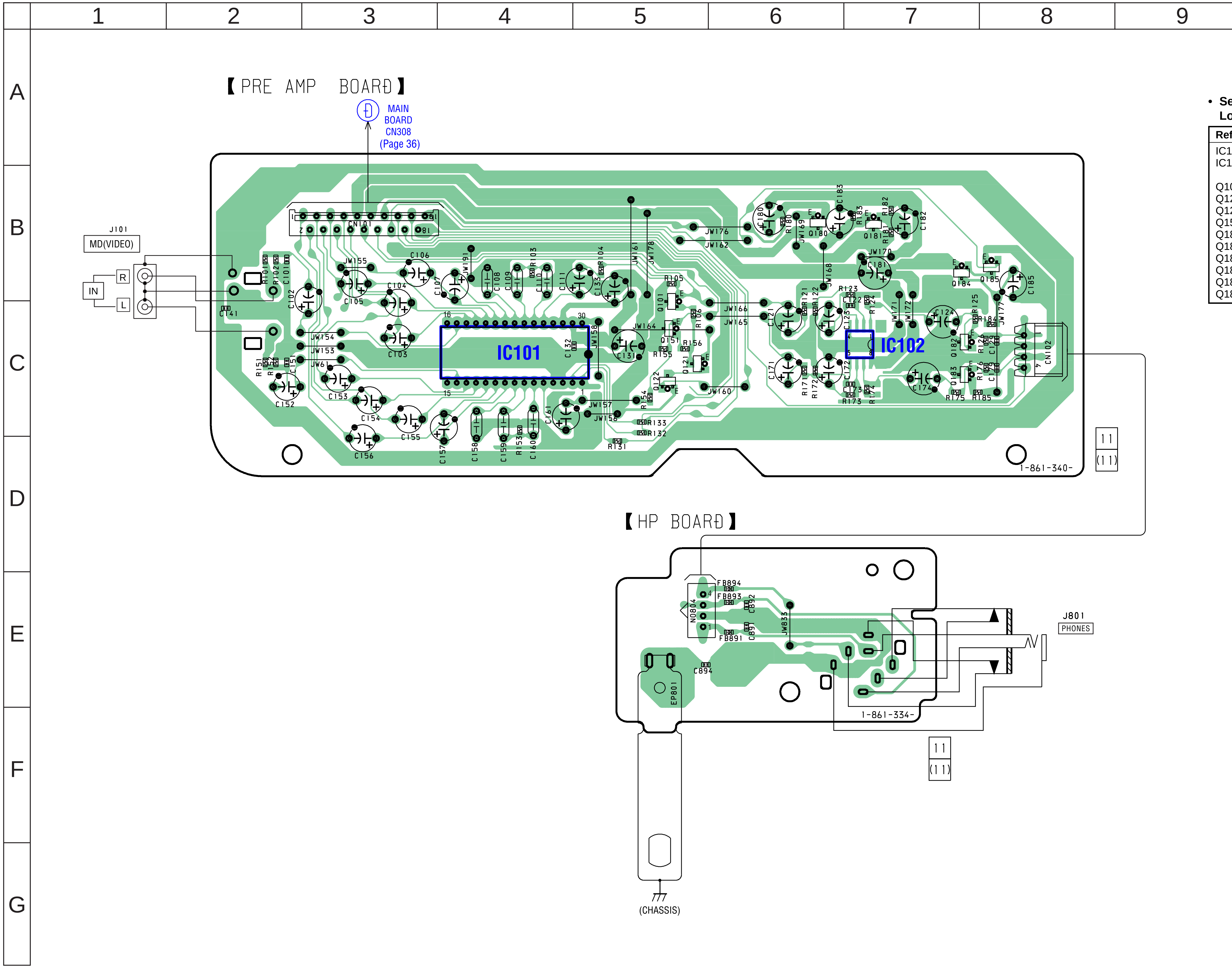
6-7. SCHEMATIC DIAGRAM — MAIN SECTION —

• Refer to page 54 for IC PIN FUNCTION DESCRIPTION.



6-8. PRINTED WIRING BOARD — PRE AMP SECTION —

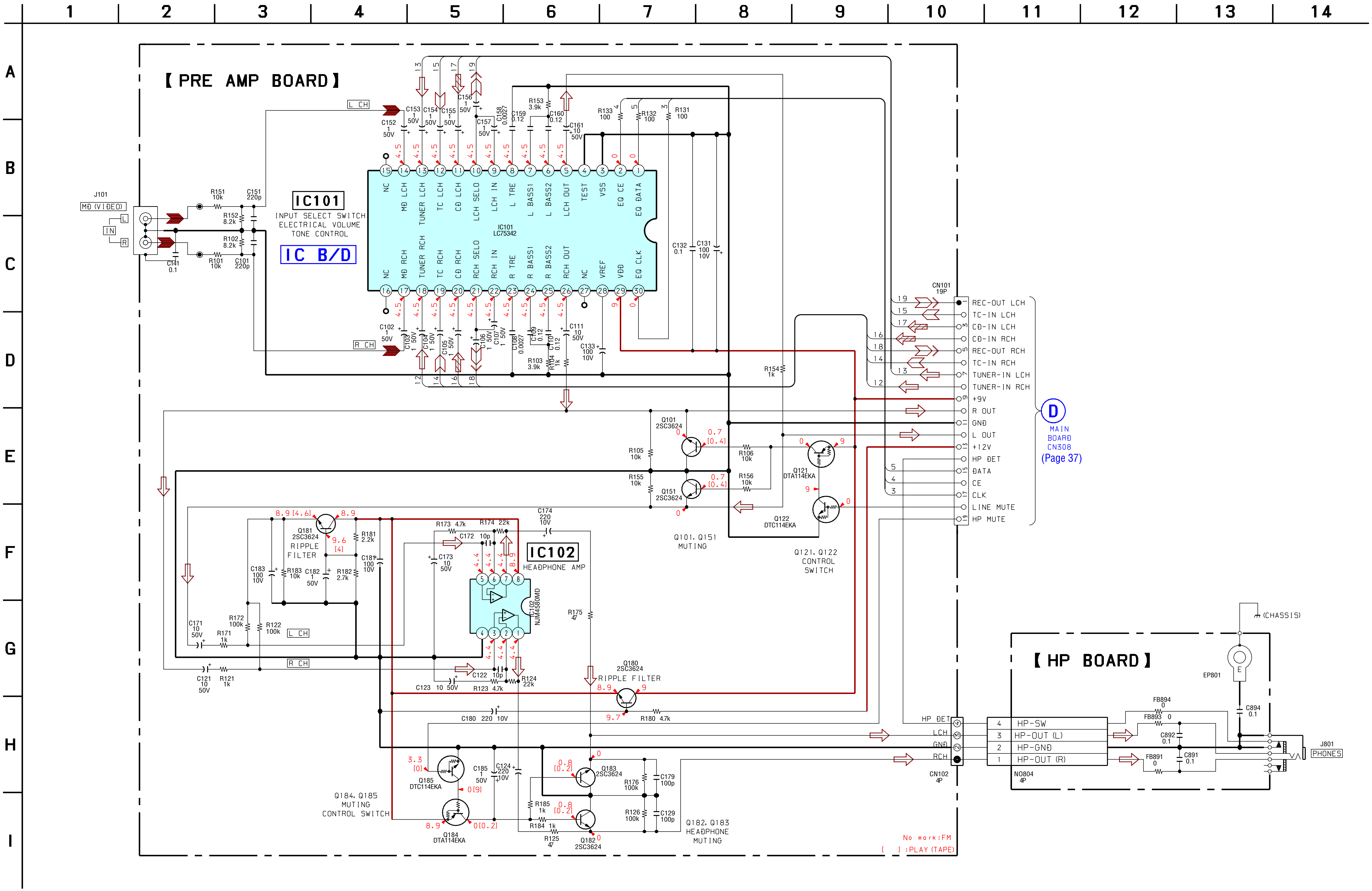
• See page 27 for Circuit Boards Location. :Uses unleaded solder.



• Semiconductor Location

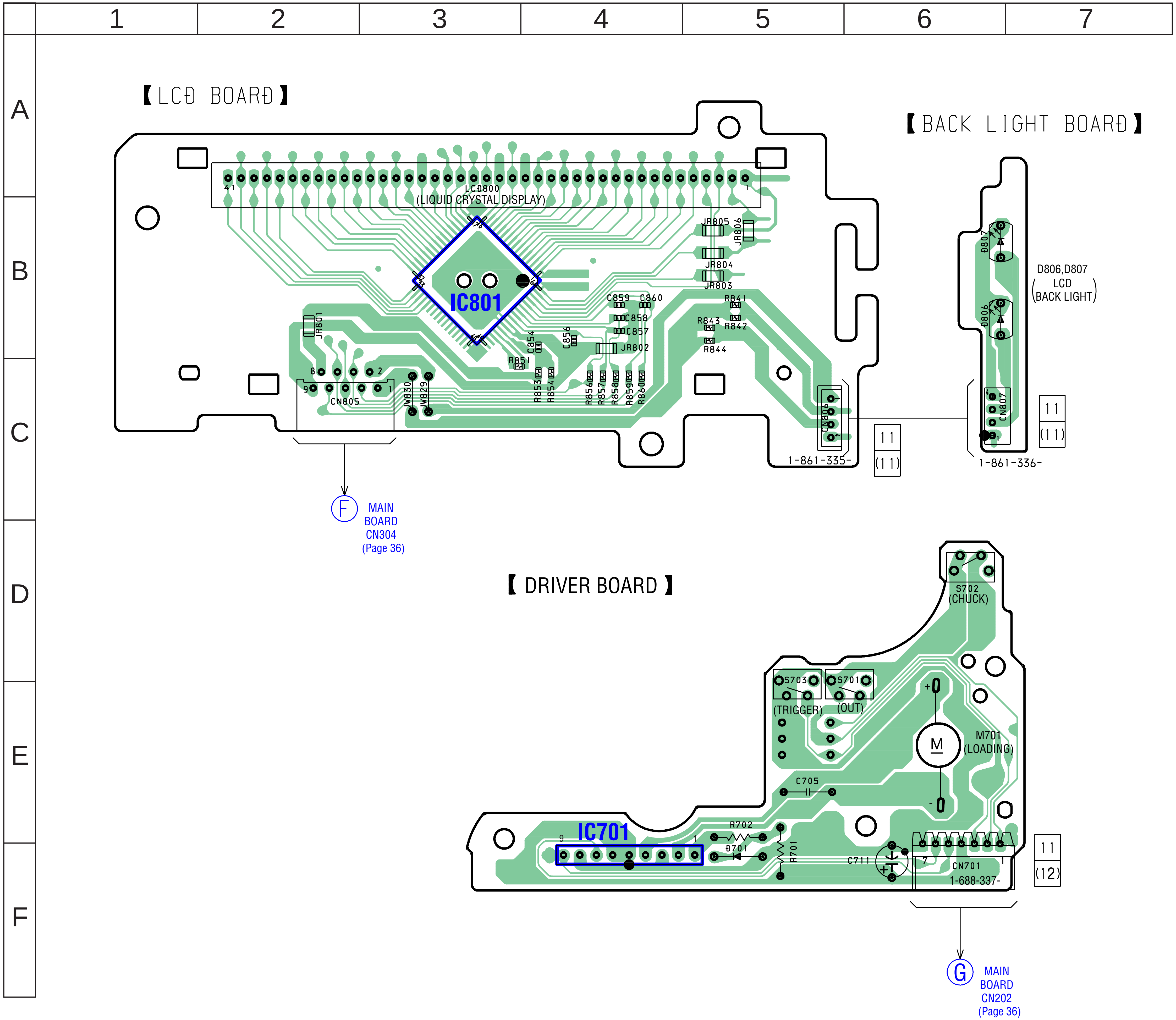
Ref. No.	Location
IC101	C-4
IC102	C-7
Q101	C-5
Q121	C-5
Q122	C-5
Q151	C-5
Q180	B-6
Q181	B-7
Q182	C-7
Q183	C-7
Q184	B-7
Q185	B-8

6-9. SCHEMATIC DIAGRAM — PRE AMP SECTION —

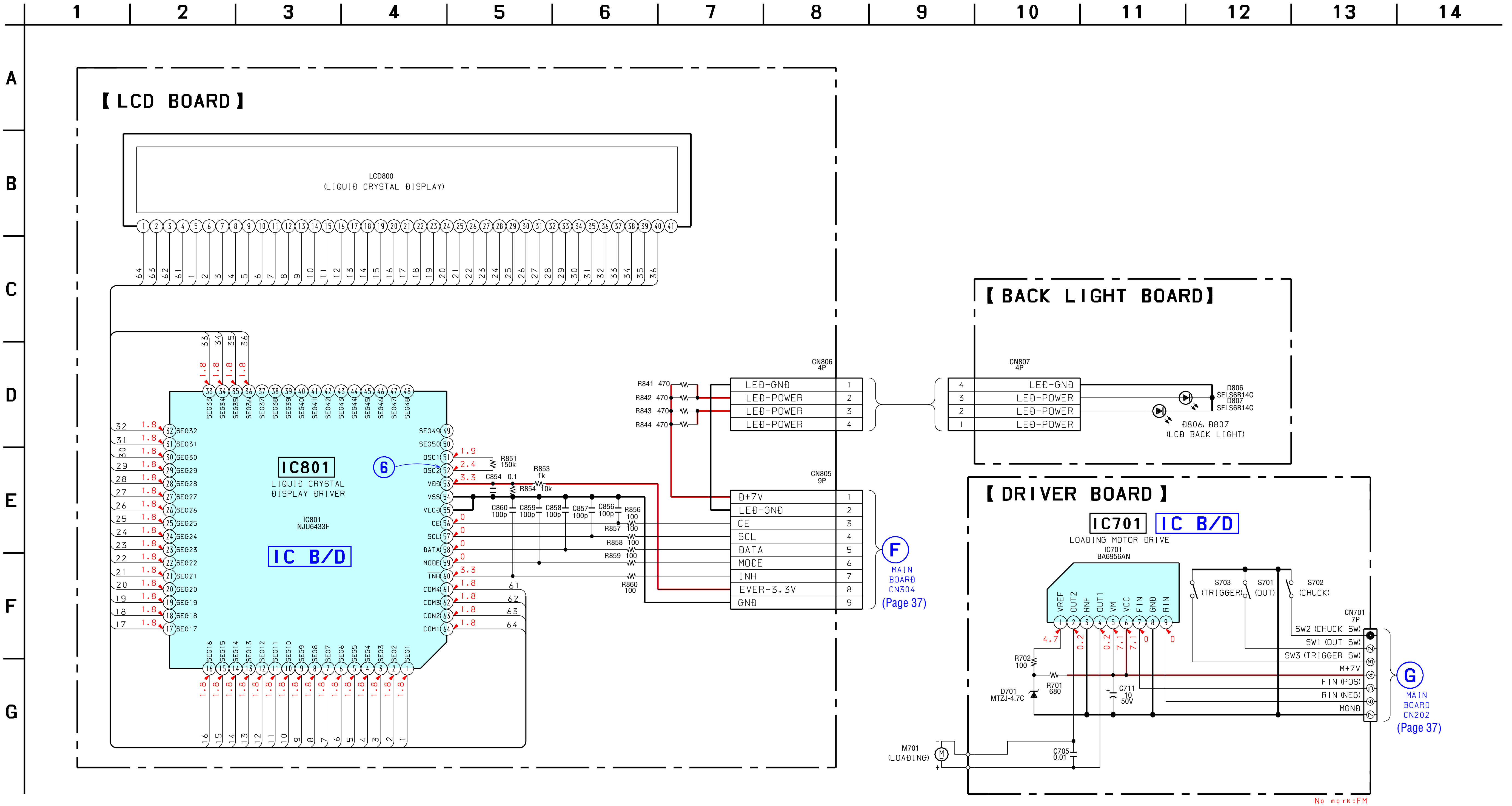


6-10. PRINTED WIRING BOARD — LCD/DRIVER SECTION —

• See page 27 for Circuit Boards Location. :Uses unleaded solder.

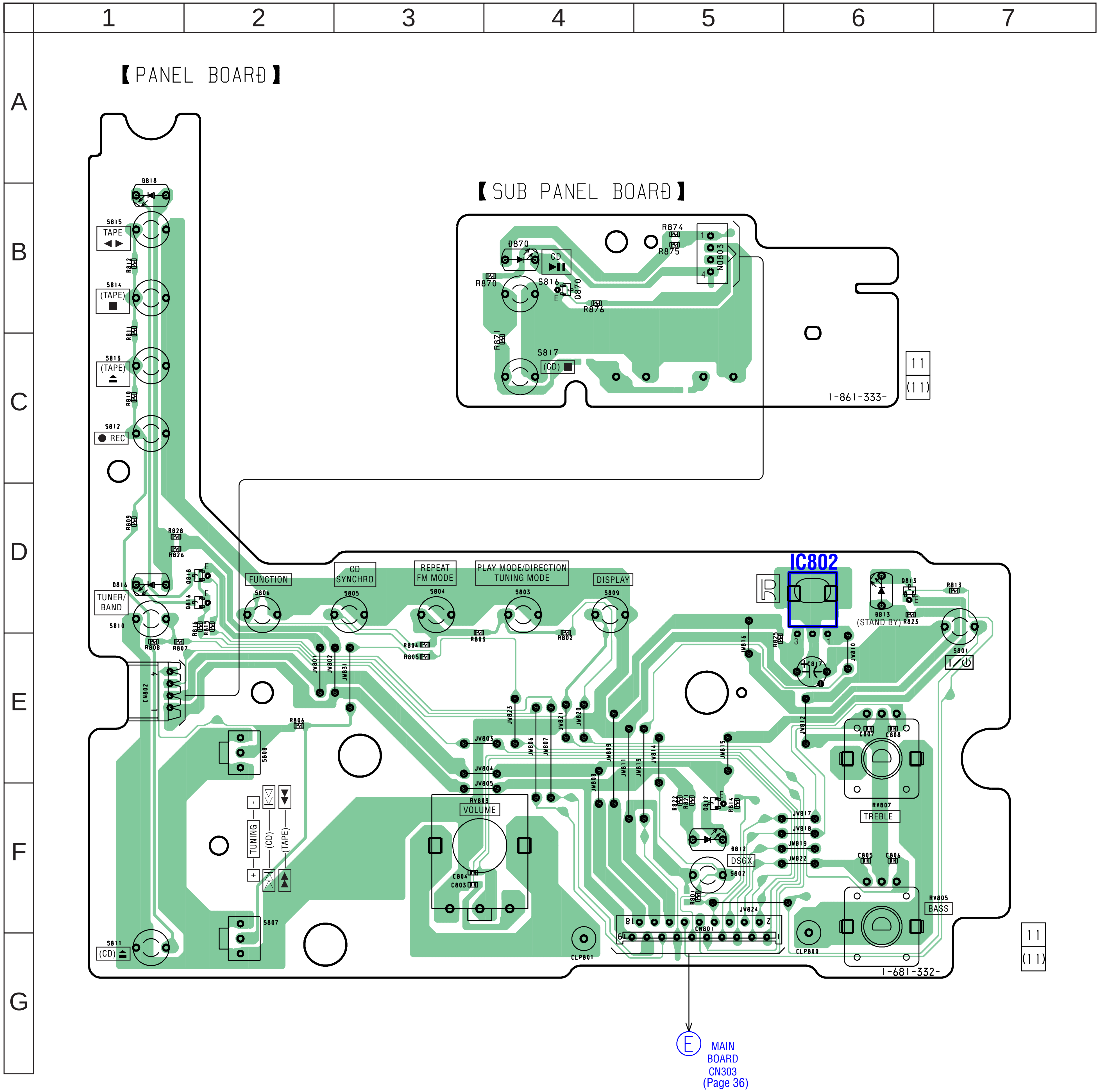


6-11. SCHEMATIC DIAGRAM — LCD/DRIVER SECTION —



6-12. PRINTED WIRING BOARD — PANEL SECTION —

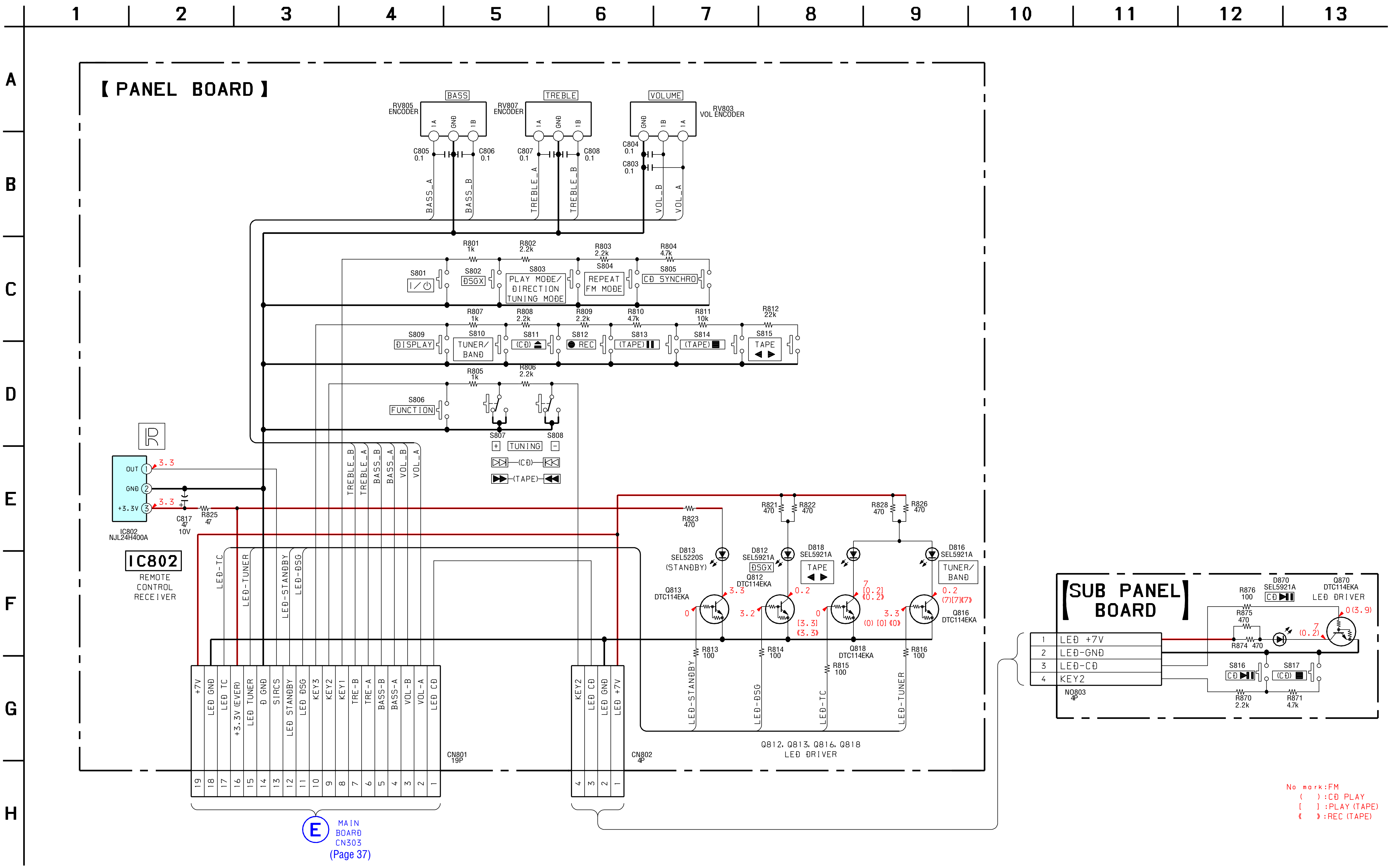
• See page 27 for Circuit Boards Location. :Uses unleaded solder.



• Semiconductor Location

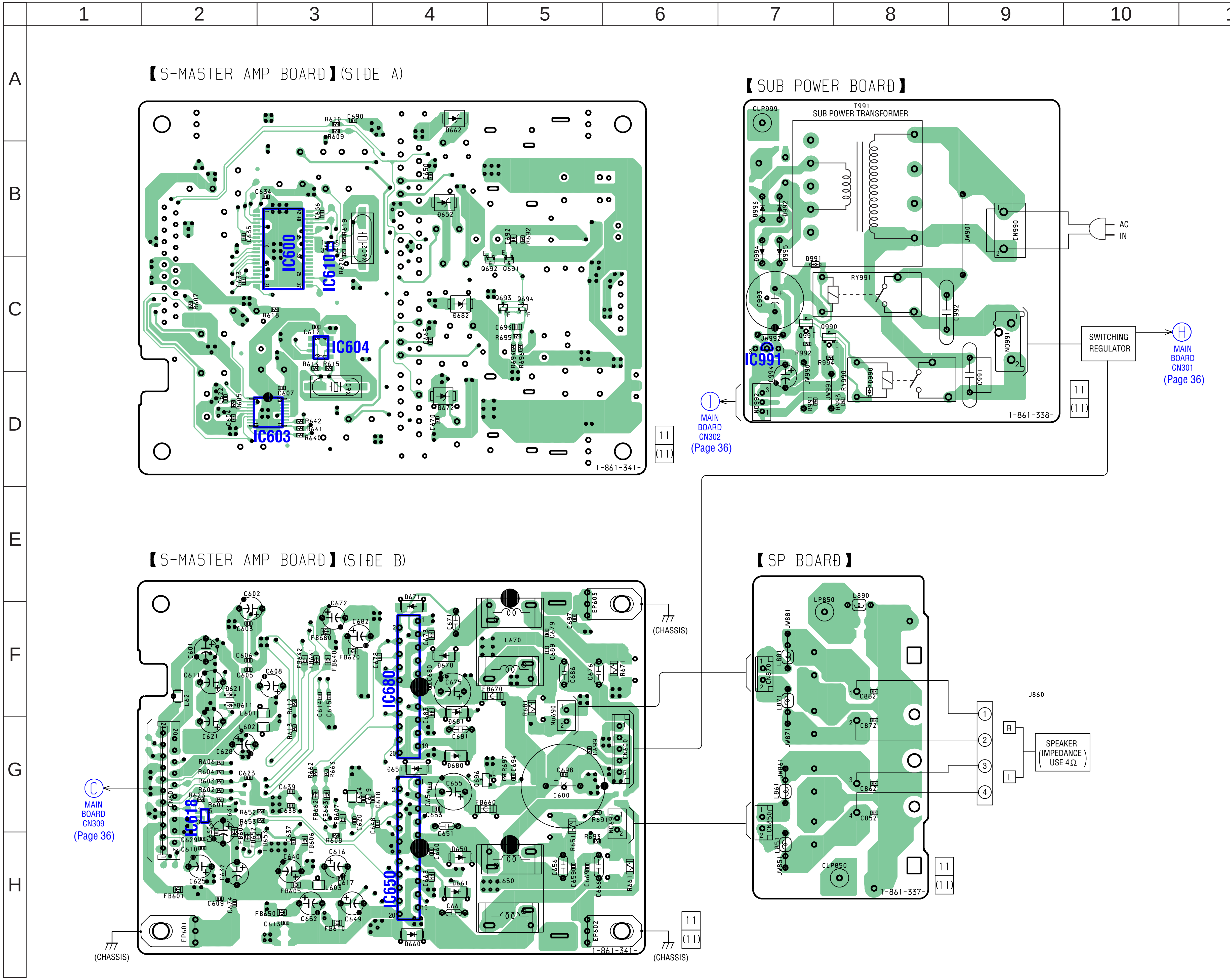
Ref. No.	Location
D812	F-5
D813	D-6
D816	D-6
D818	B-1
D870	B-4
IC802	D-6
Q812	F-5
Q813	D-6
Q816	D-2
Q818	D-2
Q870	B-4

6-13. SCHEMATIC DIAGRAM — PANEL SECTION —



6-14. PRINTED WIRING BOARD — S-MASTER SECTION —

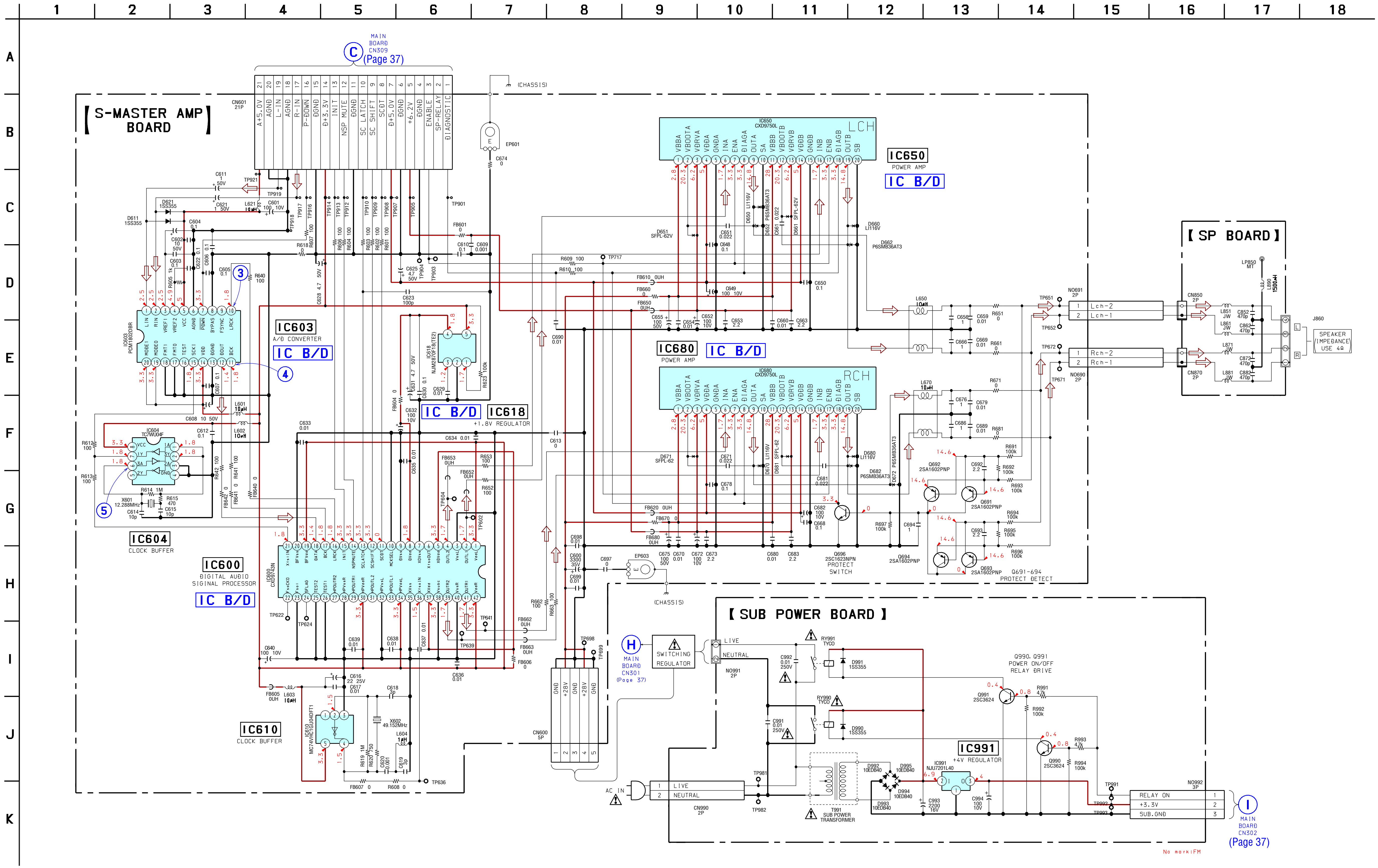
• See page 27 for Circuit Boards Location. :Uses unleaded solder.



• **Semiconductor Location**

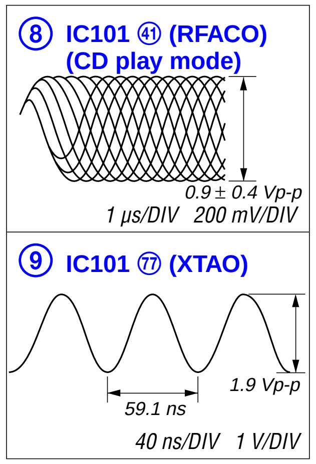
Ref. No.	Location
D611	F-2
D621	F-2
D650	H-4
D651	G-4
D652	B-4
D660	H-4
D661	H-4
D662	A-4
D670	F-4
D671	F-4
D672	D-4
D680	G-4
D681	F-4
D682	C-4
D990	D-8
D991	C-7
D992	B-7
D993	B-7
D994	B-7
D995	B-7
IC600	B-3
IC603	D-3
IC604	C-3
IC610	B-3
IC618	G-2
IC650	H-4
IC680	F-4
IC991	C-7
Q691	C-4
Q692	C-5
Q693	C-5
Q694	C-5
Q696	G-4
Q990	C-7
Q991	C-7

6-15. SCHEMATIC DIAGRAM — S-MASTER SECTION —

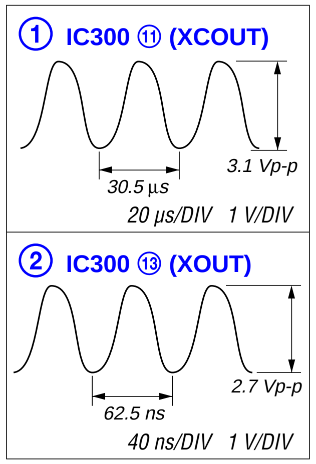


• **Waveforms**

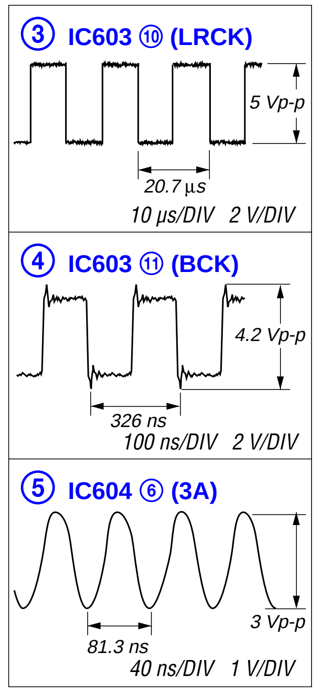
– BD81A Board –



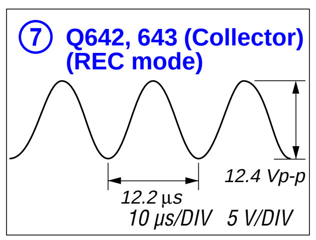
– MAIN Board –



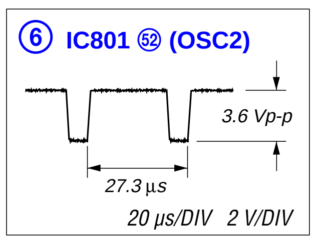
– S-MASTER AMP Board –



– TC Board –



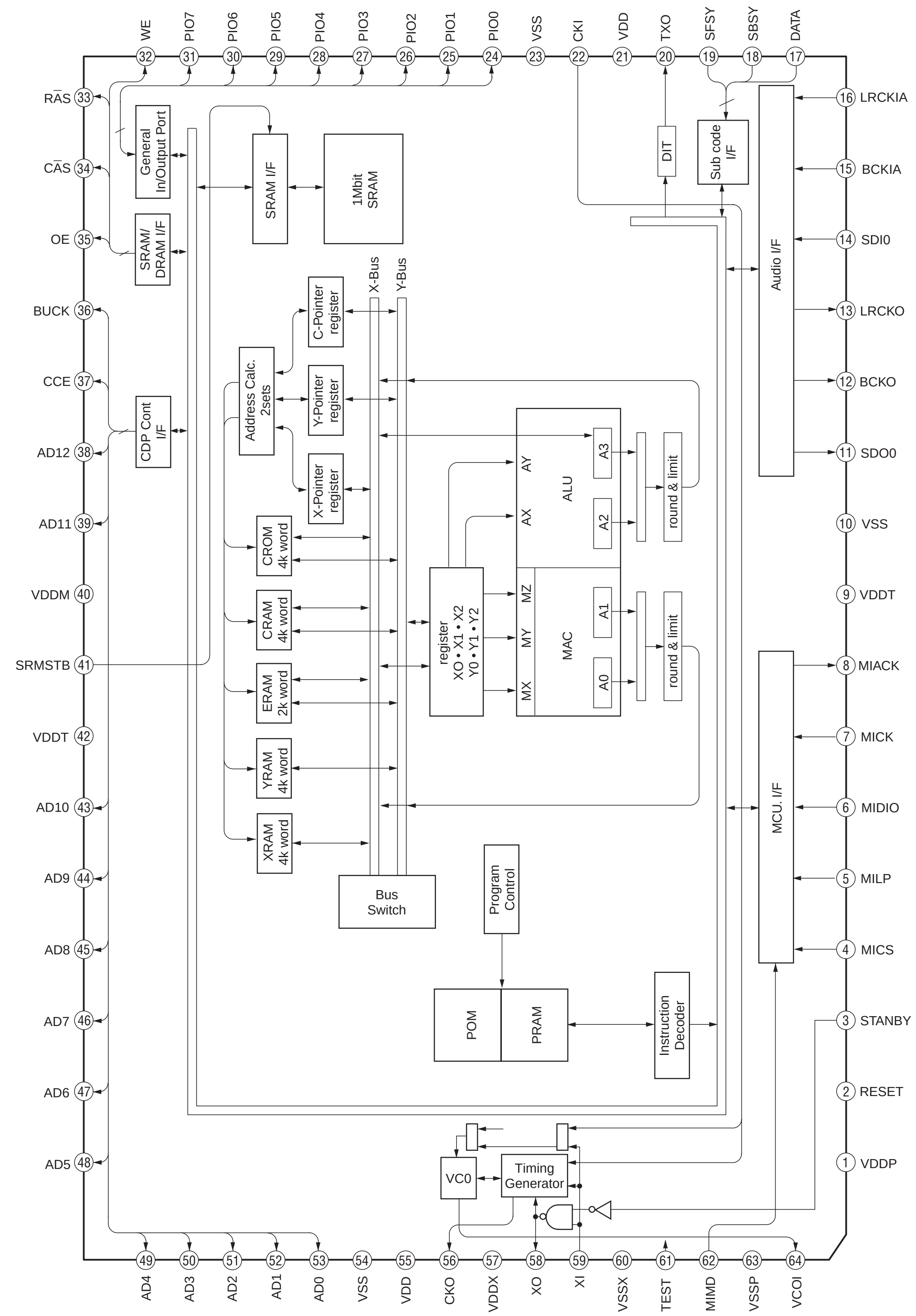
– LCD Board –



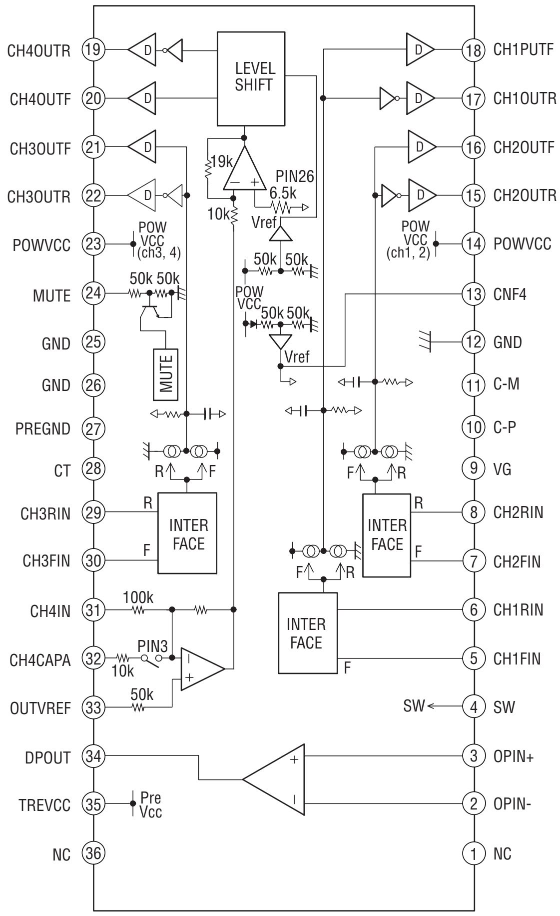
• **IC BLOCK DIAGRAMS**

– BD81A Board –

IC301 TC94A34FG-002

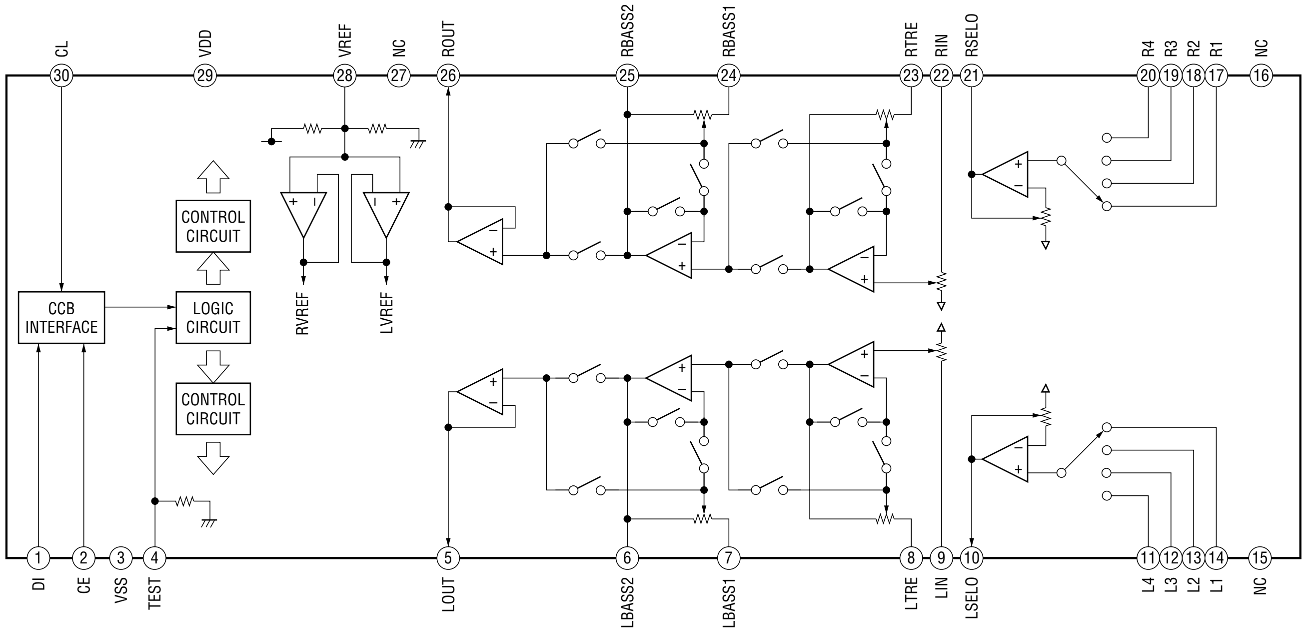


IC251 BA5947FM



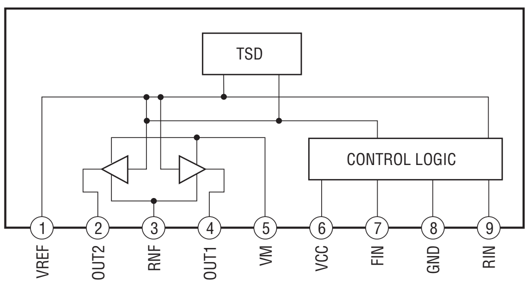
– PRE AMP Board –

IC101 LC75342



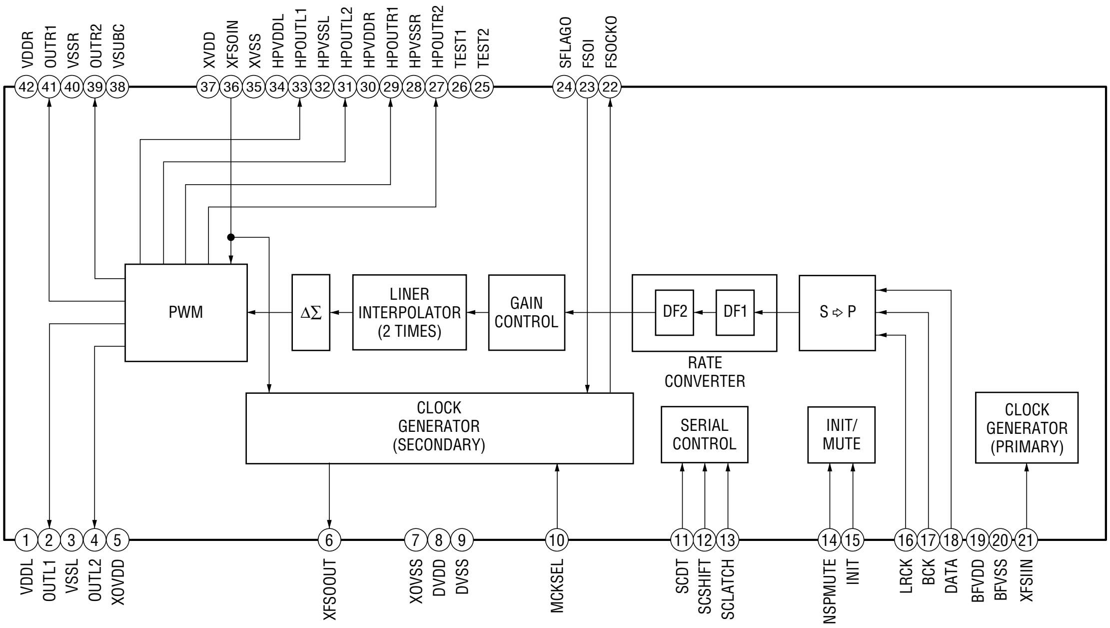
– DRIVER Board –

IC701 BA6956AN

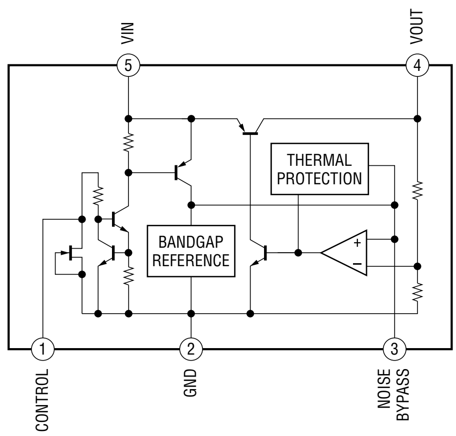


– S-MASTER AMP Board –

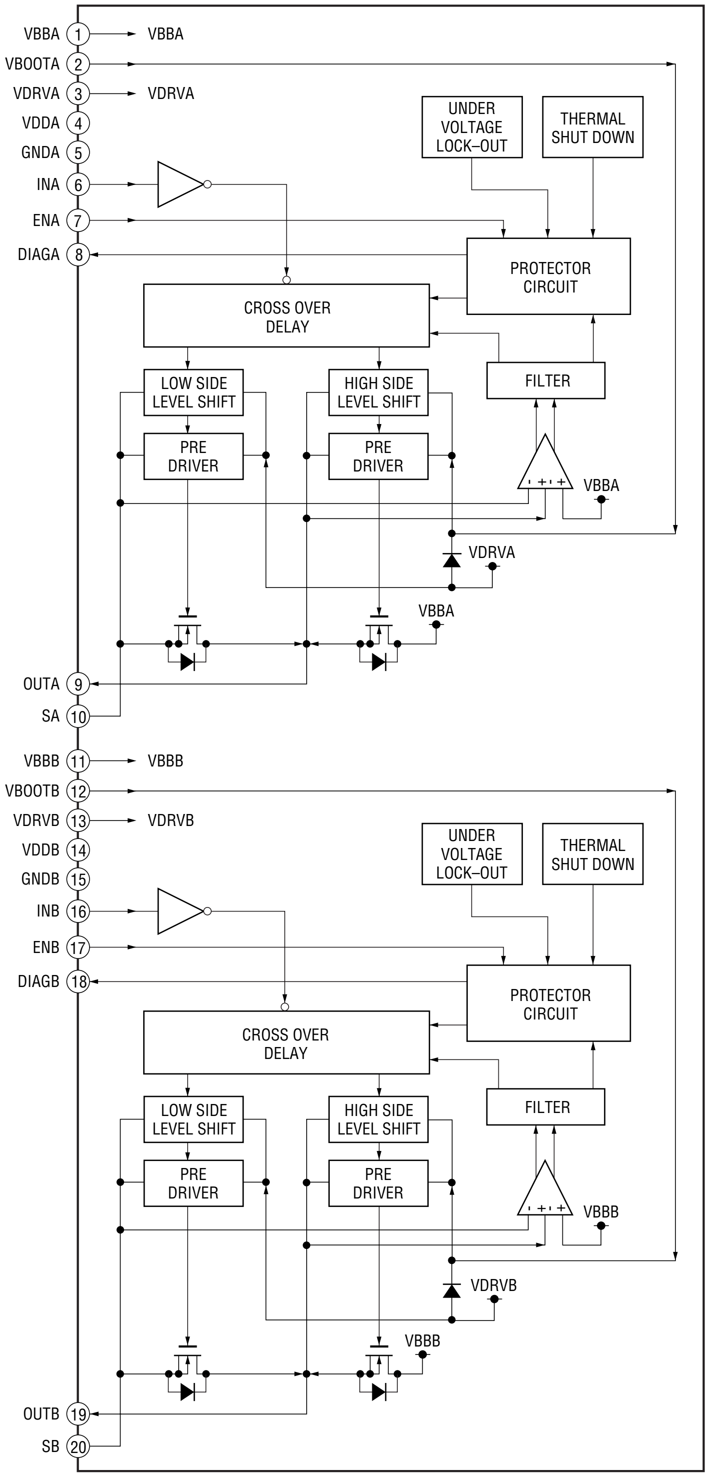
IC600 CXD9743N



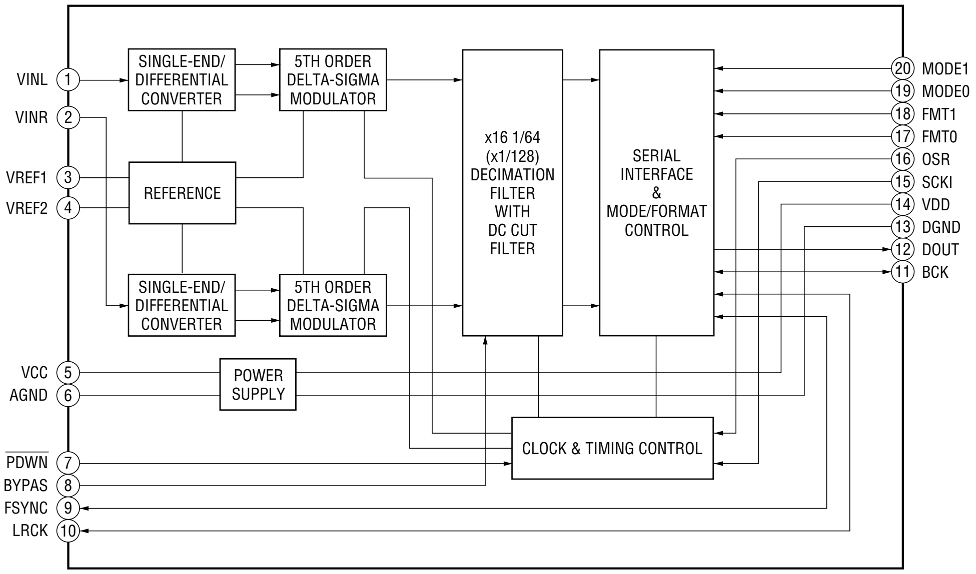
IC618 NJM2870F18 (TE2)



IC650, 680 CXD9750L

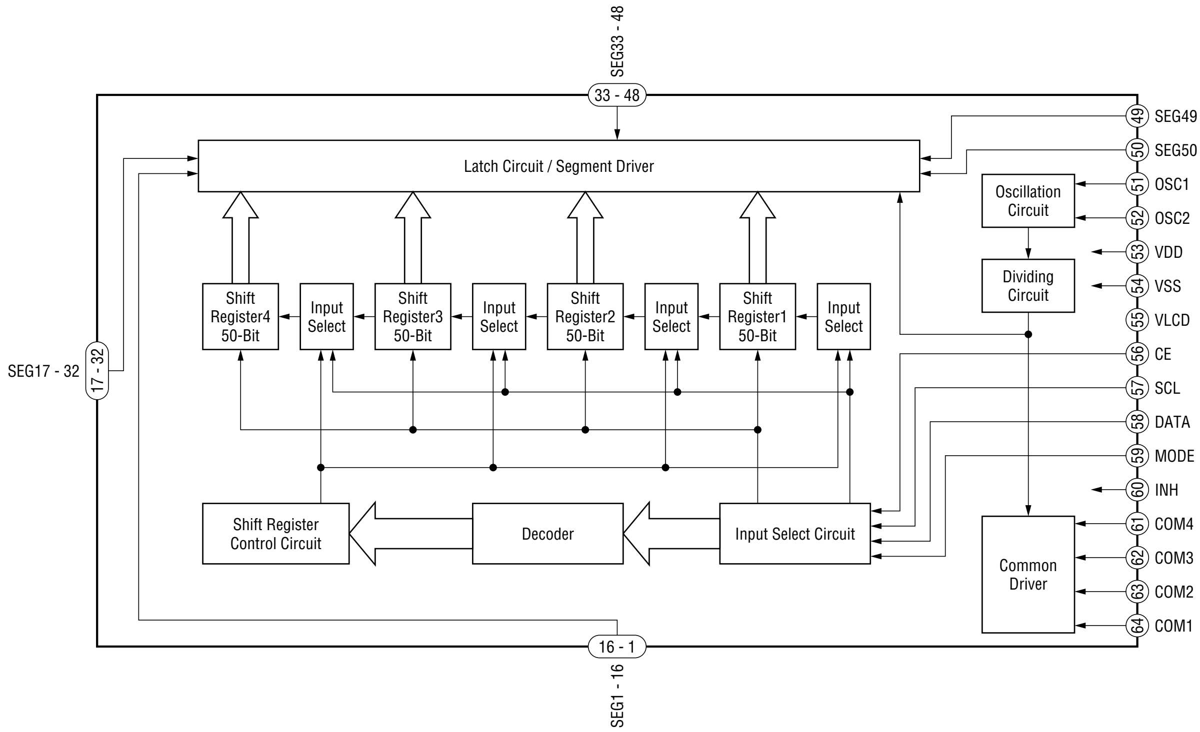


IC603 PCM1802DBR



– LCD Board –

IC801 NJU6433F



6-16. IC PIN FUNCTION DESCRIPTION

• **BD81A BOARD IC101 CXD3059AR (RF AMP)**

Pin No.	Pin Name	I/O	Description
1	MIRR	I/O	Mirror signal input/output (Not used)
2	DFCT	I/O	Defect signal input/output (Not used)
3	FOK	I/O	Focus OK signal input/output (Not used)
4	VSS	—	Internal digital ground
5	LOCK	I/O	GFS is sampled at 460Hz; when GFS is high , this pin outputs a high signal If GFS is low eight consecutive
6	MDP	O	Spindle motor servo control output
7	SSTP	I	Disk innermost detection signal input
8	IOVSS1	—	I/O digital ground
9	SFDR	O	Sled drive output
10	SRDR	O	Sled drive output
11	TFDR	O	Tracking drive output
12	TRDR	O	Tracking drive output
13	FFDR	O	Focus drive output
14	FRDR	O	Focus drive output
15	IOVDD1	—	I/O digital power supply
16	AVDD0	—	Analog power supply
17	AVSS0	—	Analog ground
18	NC	—	Not used
19	E	I	E signal input
20	F	I	F signal input
21	TEI	I	Tracking error signal input to DSSP block
22	TEO	O	Tracking error signal output from RF amplifier block
23	FEI	I	Focus error signal input to DSSP block
24	FEO	O	Focus error signal output from RF amplifier block
25	VC	I/O	Center voltage output from RF amplifier block
26	A	I	A signal input
27	B	I	B signal input
28	C	I	C signal input
29	D	I	D signal input
30	NC	—	Not used
31	AVDD4	—	Analog power supply
32	RFDCO	O	RFDC signal output (Not used)
33	PDSENS	I	Reference voltage pin for PD
34	AC_SUM	O	RFAC summing amplifier output
35	EQ_IN	I	Equalizer circuit input
36	LD	O	APC amplifier output
37	PD	I	APC amplifier input
38	NC	—	Not used
39	RFC	I	Equalizer cut-off frequency adjustment pin
40	AVSS4	—	Analog ground
41	RFACO	O	RFAC signal output
42	RFACI	I	RFAC signal input or EFM signal input
43	AVDD3	—	Analog power supply
44	BIAS	I	Asymmetry circuit constant current input
45	ASYI	I	Asymmetry comparator voltage input
46	ASYO	O	EFM full-swing output (Low = VSS, High = VDD)

Pin No.	Pin Name	I/O	Description
47	VPCO	O	Wide-band EFM PLL charge pump output (Not used)
48	VCTL	I	Wide-band EFM PLL VCO2 control voltage input
49	AVSS3	—	Analog ground
50	CLTV	I	Multiplier VCO1 control voltage input
51	FILO	O	Master PLL (slave = digital PLL) filter output
52	FILI	I	Master PLL filter input
53	PCO	O	Master PLL charge pump output
54	AVDD5	—	Analog power supply
55	DDVROUT	O	DC/DC converter output
56	DDVRSEN	I	DC/DC converter output voltage monitor pin
57	AVSS5	—	Analog ground
58	DDCR	I	DC/DC converter reset pin
59	NC	—	Not used
60	BCKI	I	D/A interface bit clock input
61	PCMDI	I	D/A interface serial data input (2’s COMP, MSB first)
62	LRCKI	I	D/A interface LR clock input
63	LRCK	O	D/A interface LR clock output f = Fs
64	VSS	—	Internal digital ground
65	PCMD	O	D/A interface serial data output (2’s COMP, MSB first)
66	BCK	O	D/A interface bit clock output
67	VDD	—	Internal digital power supply
68	EMPH	O	High when the playback disc has emphasis, low it has not
69	EMPHI	I	High when de-emphasis is ON, low when input OFF
70	IOVDD2	—	I/O digital power supply
71	DOUT	O	Digital Out output
72	TEST	I	Test pin Normally ground
73	TES1	I	Test pin Normally ground
74	IOVss2	—	I/O digital ground
75	NC	—	Not used
76	XVSS	—	Master clock ground
77	XTAO	O	Crystal oscillation circuit output
78	XTAI	I	Crystal oscillation circuit input
79	XVDD	—	Master clock power supply
80	AVDD1	—	Analog power supply
81	AOUT1	O	Lch analog output
82	VREFL	O	Lch reference voltage
83	AVSS1	—	Analog ground
84	AVSS2	—	Analog ground
85	VREFR	O	Rch reference voltage
86	AOUT2	O	Rch analog output
87	AVDD2	—	Analog power supply
88	NC	—	Not used
89	IOVDD0	—	I/O digital power supply
90	RMUT	O	Rch “0” detection flag (Not used)
91	LMUT	O	Lch “0” detection flag (Not used)
92	NC	—	Not used
93	XTSL	I	Crystal selection input (Not used)

Pin No.	Pin Name	I/O	Description
94	IOVSS0	—	I/O digital ground
95	XTACN	I	Oscillation circuit control Self-oscillation when high, oscillation stop when low
96	SQSO	O	Subcode Q 80-bit and PCM peak and level data output CD TEXT data output
97	SQCK	I	SQSO readout clock input
98	SBSO	O	Subcode P to W serial output
99	EXCK	I	SBSO readout clock input
100	XRST	I	System reset Reset when low
101	SYSM	I	Mute input Muted when high
102	D ATA	I	Serial data input from CPU
103	VSS	—	Internal digital ground
104	XLAT	I	Latch input from CPU The serial data is latched at the falling edge
105	CLOCK	I	Serial data transfer clock input from CPU
106	VDD	—	Internal digital power supply
107	SENS	O	SENS output to CPU
108	SCLK	I	SENS serial data readout clock input
109	ATSK	I/O	Anti-shock input/output (Not used)
110	WFCK	O	WFCK output (Not used)
111	XUGF	O	XUGF output (Not used)
112	XPCK	O	XPCK output (Not used)
113	GFS	O	GFS output (Not used)
114	C2PO	O	C2PO output (Not used)
115	SCOR	O	High output when the subcode sync, S0 or S1, is detected
116	VDD	—	Internal digital power supply
117	C4M	O	4 2336MHz output (Not used)
118	WDCK	O	Word clock output f = 2Fs (Not used)
119	COUT	I/O	Track number count signal input/output (Not used)
120	NC	—	Not used

• **MAIN BOARD IC300 M3062CMEN-A14FPU0 (SYSTEM CONTROLLER)**

Pin No.	Pin Name	I/O	Description
1	MILP	O	CS signal output to the digital signal processor
2	MP3 REQ	I	REQ output to CD digital processor signal output
3	MIACK	I	ACK input from CD digital processor input
4	SIRCS IN/WAKE	I	Remote control signal input terminal
5	MP3 DATA OUT	O	Serial data output to MP3
6	MP3 DATA IN	I	Serial data input from MP3
7	MP3 CLK	O	Serial data transfersignal output to MP3
8	BYTE	—	Not used
9	CNVSS	—	Ground terminal
10	XCIN	I	Sub system clock input terminal (32.768 kHz)
11	XCOUT	O	Sub system clock output terminal (32.768 kHz)
12	RESET	I	System reset signal input from the reset signal generator “L”: reset For several hundreds msec. after the power supply rises, “L” is input, then it changes to “H”
13	XOUT	O	Main system clock output terminal (16 MHz)
14	VSS	—	Ground terminal
15	XIN	I	Main system clock input terminal (16 MHz)
16	VCC	—	Power supply terminal (+3.3V)
17	NMI	I	Non-maskable interrupt input terminal Not used
18	RDS CLK	I	Serial data transfer clock signal input from the RDS decoder Not used
19	CD SCOR	I	Subcode sync (S0+S1) detection signal input from the digital signal processor
20	AC CUT	I	AC off detection signal input from the reset signal generator “L”: AC cut checked
21	MP3 RST	O	RESET output to CD digital processor
22	MICS	O	CS output to the CD digital processor
23	MP3 STB	O	MP3 STB output signal
24	CDM LOAD-IN	O	Motor drive signal (close direction) output terminal
25	CDM LOAD-OUT	O	Motor drive signal (open direction) output terminal
26	CDM SW3	I	Loading in/out detect switch input terminal “L”: loading in
27	CDM SW1	I	Loading in/out detect switch input terminal “L”: loading in
28	CDM SW2	I	Loading in/out detect switch input terminal “L”: loading in
29	IIC CLK	I/O	Communication data transfer clock signal input/output terminal Not used
30	IIC DATA	I/O	Communication data bus terminal Not used
31	NO USE	—	Not used
32	CD SENS	I	Internal status detection monitor input from the digital signal processor
33	CD XRST	O	Reset signal output to the digital signal processor and motor/coil driver “L”: reset
34	CD XTCN	O	CD XTCN signal output
35	CD DATA	O	Serial data output to the digital signal processor
36	CD XLT	O	Serial data latch pulse signal output to the digital signal processor
37	CD CLK	O	Serial data transfer clock signal output to the digital signal processor
38	CD BD-PWR	O	Power supply on/off control signal output for the CD section “H”: power on
39	PWR RELAY	O	Main system power supply on/off control signal output terminal “H”: power on
40	DIAG	I	Protect signal input from the power amplifier and protect detect circuit
41	ENA	O	Output enable control signal output to the power amplifier
42	SC DT	O	Serial data output to the digital audio signal processor
43	SC SHIFT	O	Serial data shift clock signal output to the digital audio signal processor
44	SC LATCH	O	Serial data latch pulse signal output to the digital audio signal processor

Pin No.	Pin Name	I/O	Description
45	NSP MUTE	O	Muting on/off control signal output to the digital audio signal processor "L": muting on
46	INIT	O	Reset signal output to the digital audio signal processor "L": reset
47	ST CLK	O	PLL serial data transfer clock signal output to the tuner unit
48	ST DATA IN	I	PLL serial data input from the tuner unit
49	ST DATA OUT	O	PLL serial data output to the tuner unit
50	ST CE	O	PLL chip enable signal output to the tuner unit
51	ST TUNED	I	Tuning detection signal input from the tuner unit "L": tuned
52	ST STEREO	I	FM stereo detection signal input from the tuner unit "L": stereo
53	ST MUTE	O	Tuner muting on/off control signal output to the tuner unit "H": muting on
54	RDS DATA	I	Serial data input from the RDS decoder
55	EQ CLK	O	Serial data transfer clock signal output to the electrical volume
56	NO USE	—	Not used
57	EQ CE	O	Chip enable signal output to the electrical volume
58	HP MUTE	O	Headphone muting on/off control signal output terminal "H": muting on
59	LINE MUTE	O	Audio line muting on/off control signal output terminal "H": muting on
60	CD MUTE	O	CD analog signal muting on/off control signal output terminal "H": muting on
61	TC ALC	O	Automatic limiter control signal output to the recording/playback equalizer amplifier "H": limiter on
62	VCC	—	Power supply terminal (+3.3V)
63	SOFT TEST	O	Output terminal for the software test Not used
64	VSS	—	Ground terminal
65	TC REC/MUTE	O	Recording muting on/off control signal output to the recording/playback equalizer amplifier "L": muting on
66	TC LINE MUTE	O	Line muting on/off control signal output to the recording/playback equalizer amplifier "H": muting on
67	TC PB/REC	O	Recording/playback selection signal output terminal "L": playback, "H": recording
68	TC BIAS-ON	O	Recording bias on/off control signal output terminal "H": bias on
69	TC PLAY SW	I	Head position detect switch input terminal
70	TC CAPM-CONT	O	Capstan/reel motor on/off control signal output terminal "H": motor on
71	TC TRG	O	Trigger plunger on/off control signal output terminal "H": plunger on
72	LCD INH	O	Reset signal output to the liquid crystal display driver "L": reset
73	LCD MODE	O	Signal output for discriminating between command and display data to the liquid crystal display driver "L": display data, "H": command
74	KEY WAKE UP	I	System wake up signal input by pressing any key
75	LCD DATA/EQ DATA	O	Serial data output to the liquid crystal display driver
76	LCD SCL	O	Serial data transfer clock signal output to the liquid crystal display driver
77	LCD CE	O	Chip select signal output to the liquid crystal display driver "L" active
78	LCD ON/LCD BL	O	Power on/off control signal output for liquid crystal display "H": power on
79	LED TC	O	LED drive signal output of the TAPE ◄► indicator "H": LED on
80	LED TUNER	O	LED drive signal output of the TUNER BAND indicator "H": LED on
81	LED STANDBY	O	LED drive signal output of the standby indicator "H": LED on
82	LED DSG	O	LED drive signal output of the DSG indicator "H": LED on
83	TRE A	I	Jog dial pulse input from the rotary encoder (TREBLE) (A phase input)
84	TRE B	I	Jog dial pulse input from the rotary encoder (TREBLE) (B phase input)
85	BASS A	I	Jog dial pulse input from the rotary encoder (BASS) (A phase input)

Pin No.	Pin Name	I/O	Description
86	BASS B	I	Jog dial pulse input from the rotary encoder (BASS) (B phase input)
87	VOL A	I	Jog dial pulse input from the rotary encoder (VOLUME) (A phase input)
88	VOL B	I	Jog dial pulse input from the rotary encoder (VOLUME) (B phase input)
89	LED CD	O	LED drive signal output of the CD ►II indicator "H": LED on
90	TC END SW	I	Tape end detect switch input terminal
91	TC HALF/REC/SW	I	Recording-proof claw (forward/reverse) detect switch and cassette in detect switch input terminal (A/D input)
92	MODEL	I	Model setting terminal
93	DEST	I	Destination setting terminal
94, 95	KEY3, KEY2	I	Front panel key input terminal (A/D input)
96	AVSS	—	Ground terminal (for analog system)
97	KEY1	I	Front panel key input terminal (A/D input)
98	VREF	I	Reference voltage (+3.3V) input terminal
99	AVCC	—	Power supply terminal (+3.3V) (for analog system)
100	HP DET	I	Headphone jack connection detection signal input terminal "L": no connected, "H": headphone connected

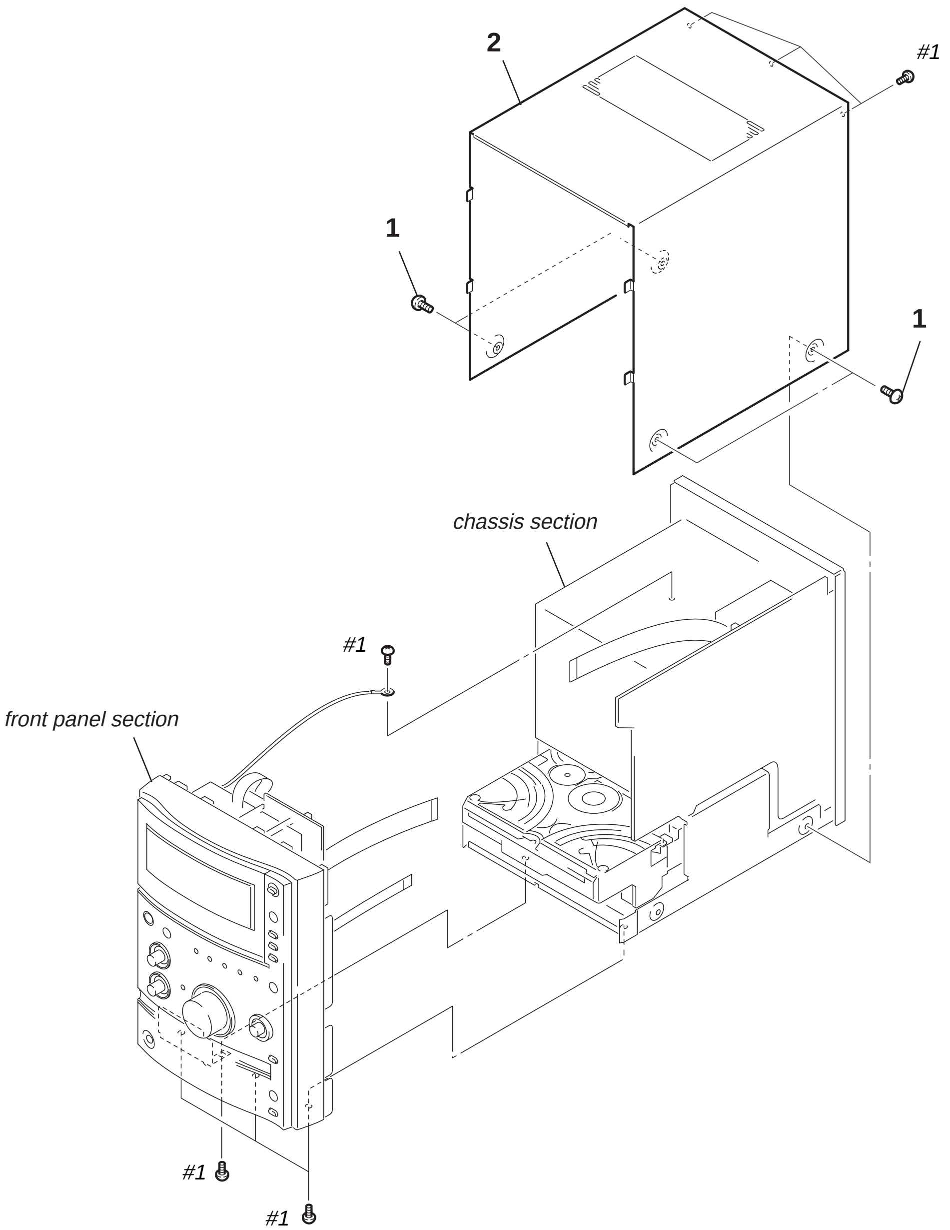
SECTION 7
EXPLODED VIEWS

NOTE:

- -XX and -X mean standardized parts, so they may have some difference from the original one.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Abbreviation
  AUS : Australian model
  KR : Korean model

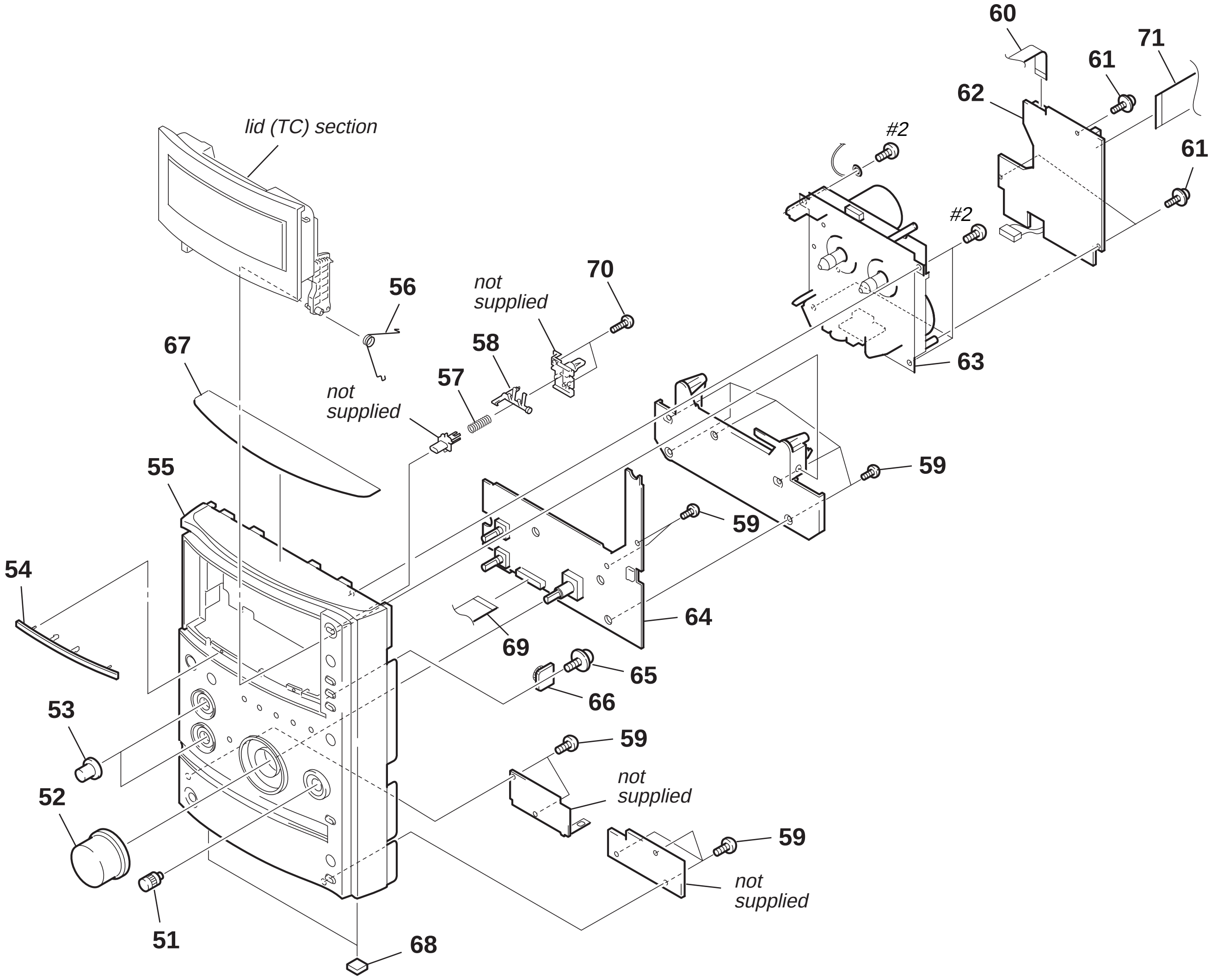
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

7-1. MAIN SECTION



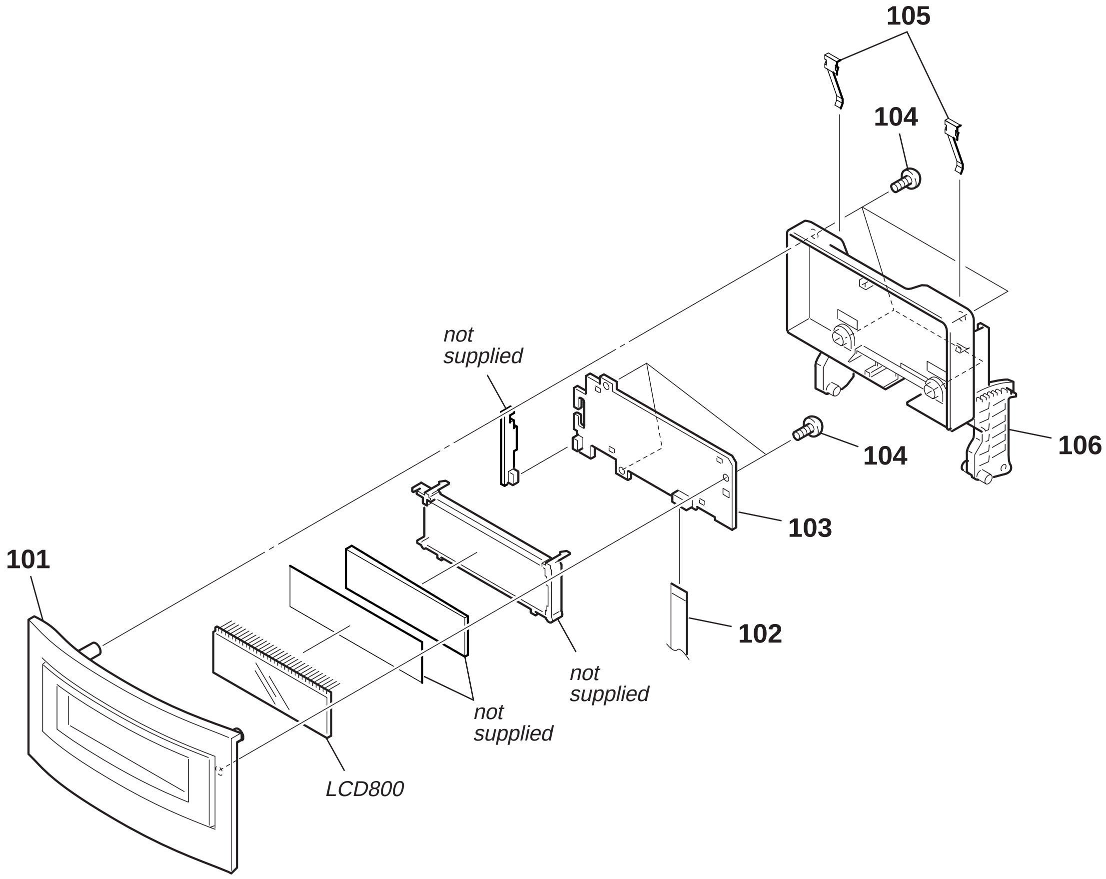
Ref. No.	Part No.	Description	Remark
1	4-235-099-11	SCREW (CASE 3 TP2)	
2	4-244-016-21	COVER	
#1	7-685-645-79	SCREW +BVTP 3X6 TYPE2 TT (B)	

7-2. FRONT PANEL SECTION



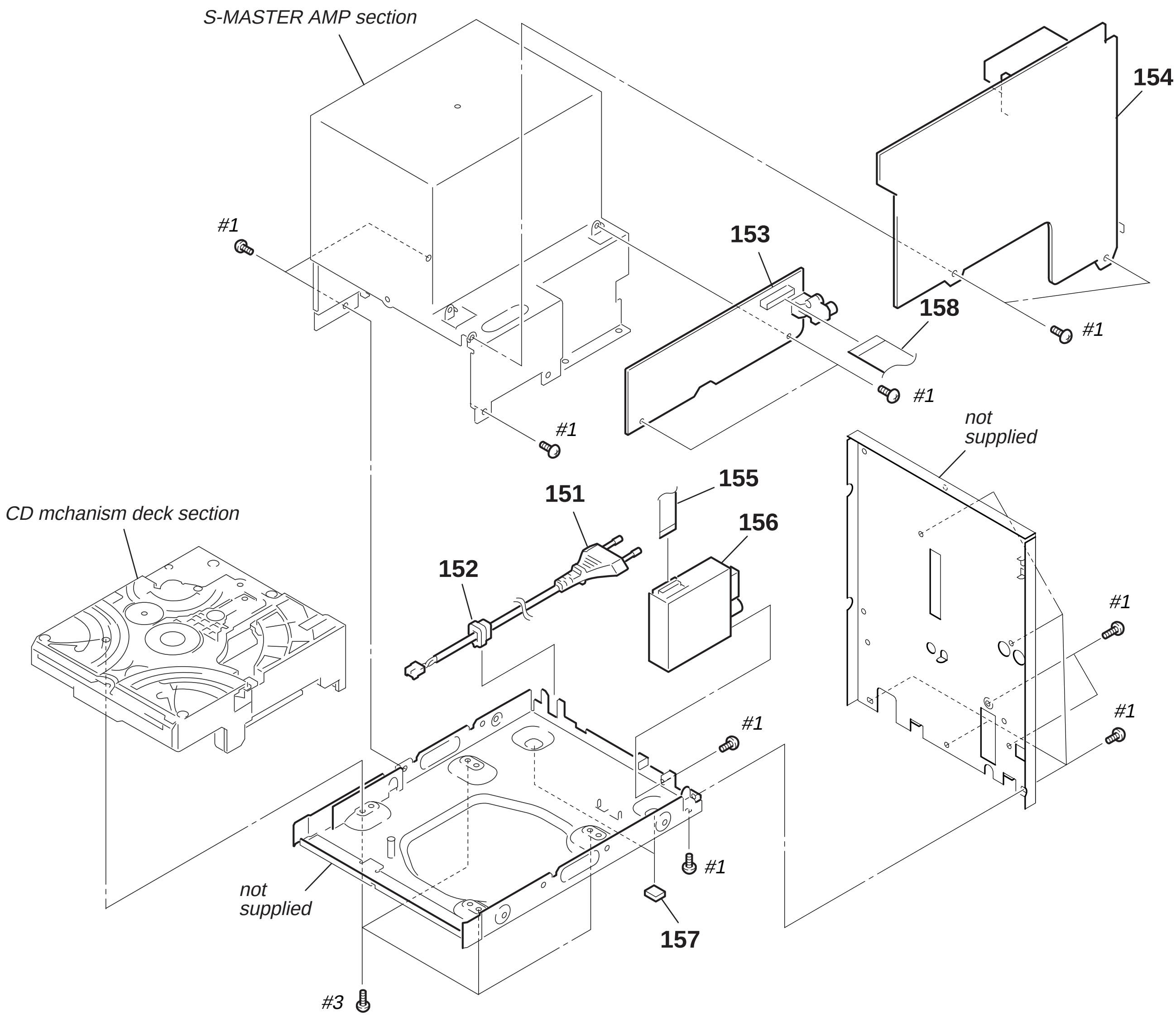
Ref. No.	Part No.	Description	Remark
51	4-252-359-01	KNOB, TUNING	
52	4-252-348-01	KNOB, VOLUME	
53	4-252-349-01	KNOB, BASS	
54	4-252-352-01	BAND (UPPER), DIVISION	
55	X-4956-171-1	PANEL ASSY, FRONT (AEP, UK)	
55	X-4956-181-1	PANEL ASSY, FRONT (KR, AUS)	
56	4-244-021-01	SPRING (LID TC), TORSION	
57	4-244-023-01	SPRING (EJECT), COMPRESSION	
58	4-244-014-01	LEVER (EJECT)	
59	4-951-620-01	SCREW (2.6X8), +BVTP	
60	1-824-192-11	WIRE (FLAT TYPE) (8 CORE)	
61	3-669-480-51	+ PTPWH 2	
62	A-4750-369-A	TC BOARD, COMPLETE	
63	1-796-456-31	DECK, MECHANICAL (CMAL1Z-236A)	
64	A-4750-358-A	PANEL BOARD, COMPLETE	
65	4-933-134-11	SCREW (+PTPWH M2.6X8)	
66	4-244-530-01	DAMPER	
67	4-252-396-01	PLATE (TOP), ORNAMENT	
68	4-233-372-02	FOOT (FELT)	
69	1-773-120-11	WIRE (FLAT TYPE) (19 CORE)	
70	4-951-620-31	SCREW (2.6), +BVTP	
71	1-773-110-11	WIRE (FLAT TYPE) (19 CORE)	
#2	7-685-646-79	SCREW +BVTP 3X8 TYPE2 TT (B)	

7-3. LID (TC) SECTION



Ref. No.	Part No.	Description	Remark
101	X-4956-169-1	LID (TC) ASSY	
102	1-769-912-11	WIRE (FLAT TYPE) (9 CORE)	
103	1-861-335-11	LCD BOARD	
104	4-951-620-01	SCREW (2.6X8), +BVTP	
105	4-244-022-01	SPRING (TC), LEAF	
106	4-252-353-01	HOLDER (TC)	
LCD800	1-805-545-11	DISPLAY PANEL, LIQUID CRYSTAL	

7-4. CHASSIS SECTION

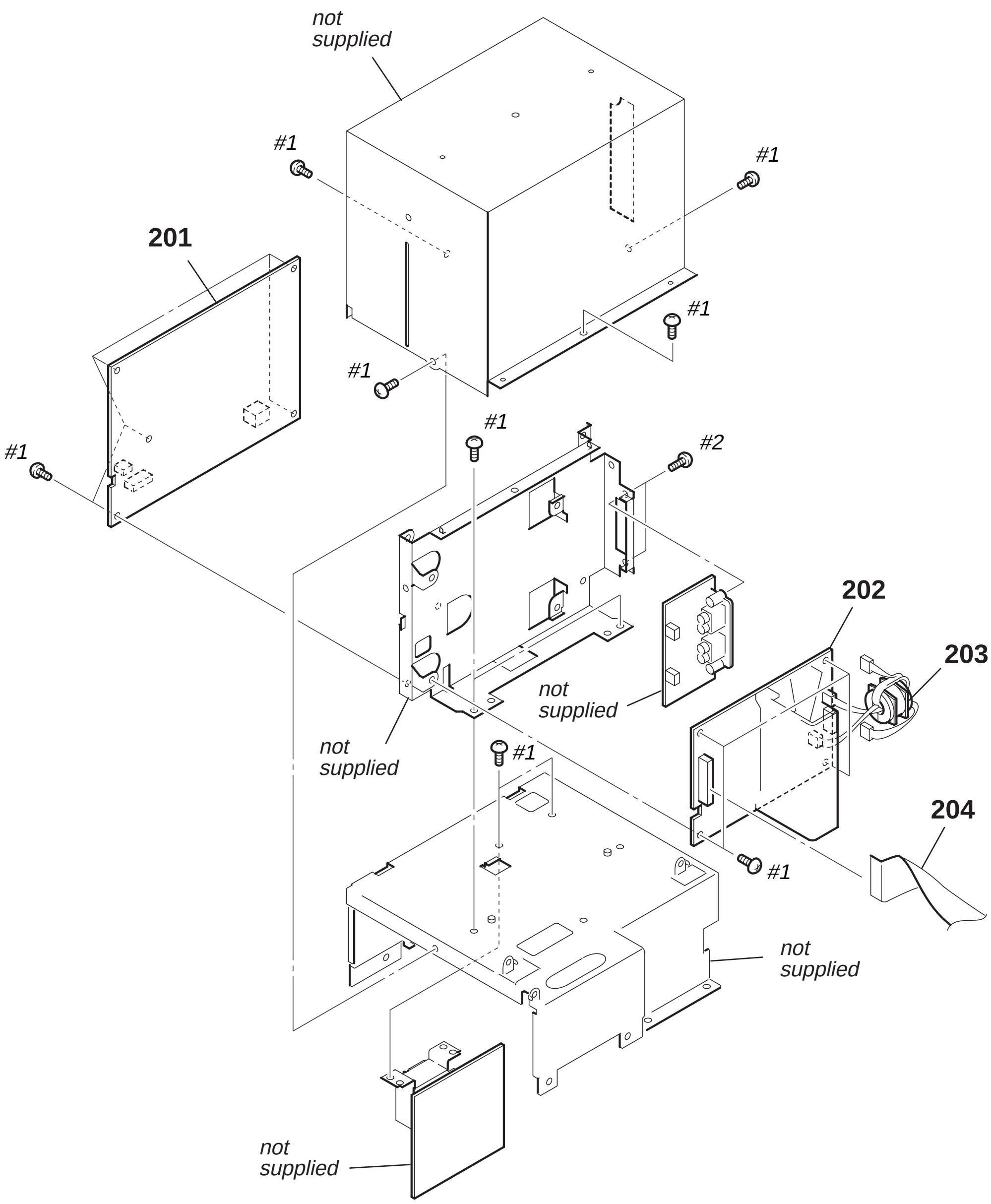


Ref. No.	Part No.	Description	Remark
⚠151	1-769-079-23	CORD, POWER (KR)	
⚠151	1-777-071-83	CORD, POWER (AEP, UK)	
⚠151	1-783-203-13	CORD, POWER (AUS)	
152	3-703-244-00	BUSHING (2104), CORD	
153	A-4750-356-A	PRE AMP BOARD, COMPLETE	
154	A-4750-353-A	MAIN BOARD, COMPLETE (AEP, UK)	
154	A-4750-940-A	MAIN BOARD, COMPLETE (KR, AUS)	
155	1-777-353-11	FLAT CABLE (15 CORE) (AEP, UK)	

Ref. No.	Part No.	Description	Remark
155	1-824-486-11	WIRE (FLAT TYPE) (11 CORE) (KR, AUS)	
156	1-693-603-31	TUNER (FM/AM) (AUS)	
156	1-693-604-11	TUNER (FM/AM) (AEP, UK)	
156	1-693-605-11	TUNER (FM/AM) (KR)	
157	4-233-372-02	FOOT (FELT)	
158	1-773-105-11	WIRE (FLAT TYPE) (19 CORE)	
#1	7-685-645-79	SCREW +BVTP 3X6 TYPE2 TT (B)	
#3	7-685-647-79	SCREW +BVTP 3X10 TYPE2 TT (B)	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

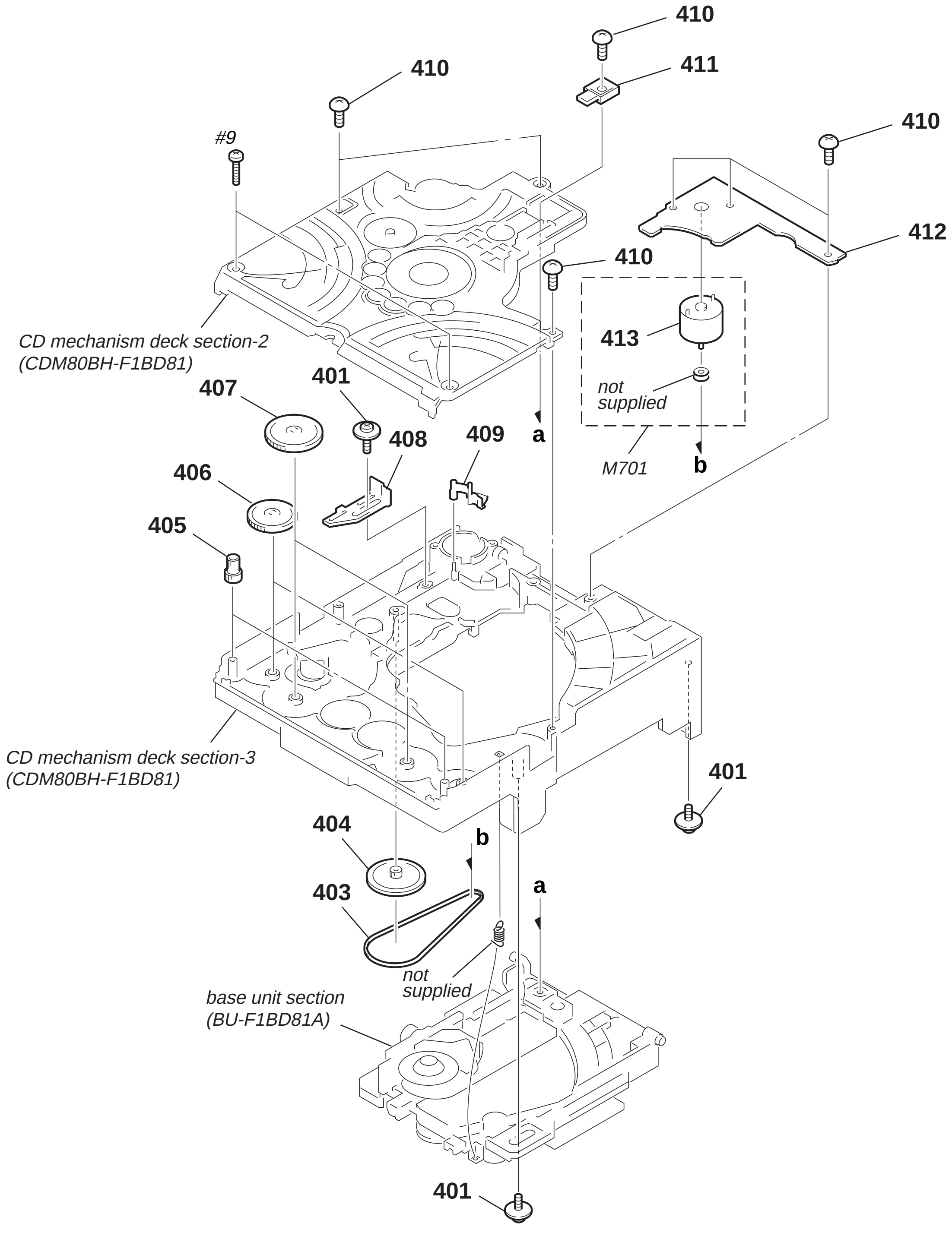
7-5. S-MASTER AMP SECTION



Ref. No.	Part No.	Description	Remark
⚠201	1-468-730-11	REGULATOR, SWITCHING	
202	A-4750-366-A	S-MASTER AMP BOARD, COMPLETE	
203	1-500-484-21	CLAMP, SLEEVE FERRITE	
204	1-773-158-11	WIRE (FLAT TYPE) (21 CORE)	
#1	7-685-645-79	SCREW +BVTP 3X6 TYPE2 TT (B)	
#2	7-685-646-79	SCREW +BVTP 3X8 TYPE2 TT (B)	

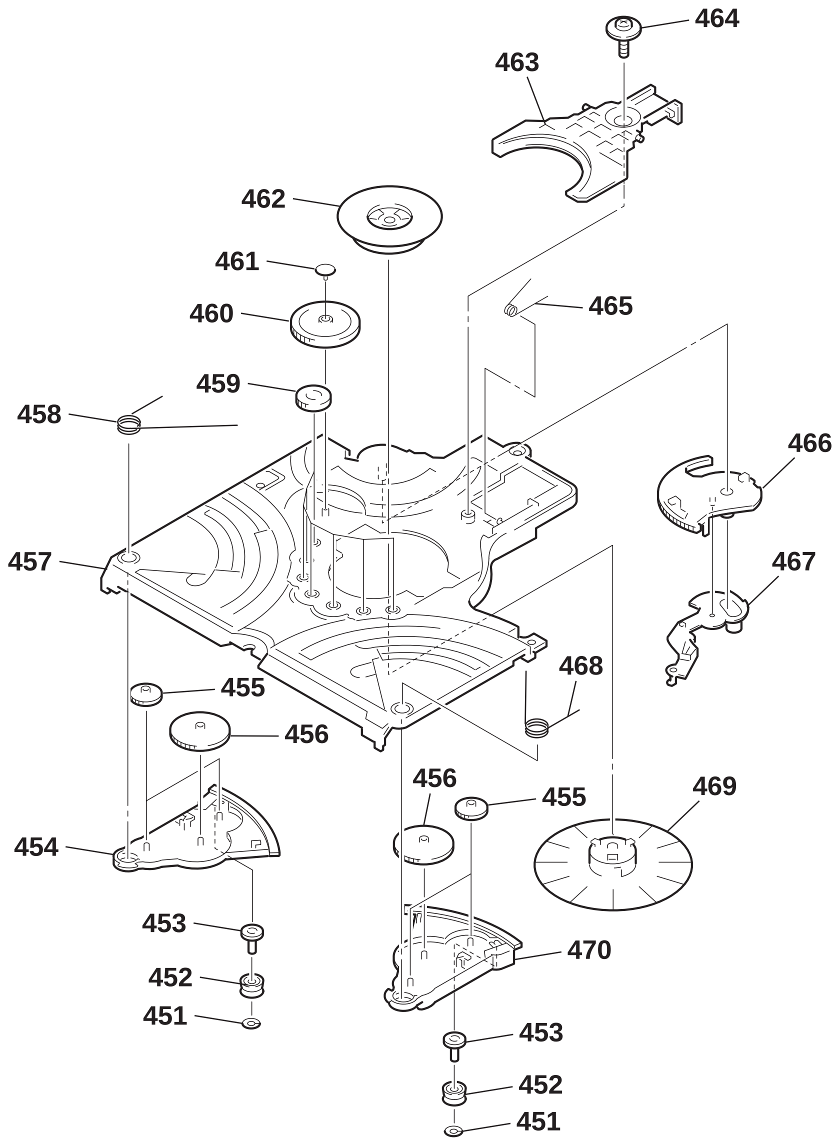
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

7-6. CD MECHANISM DECK SECTION-1 (CDM80BH-F1BD81)



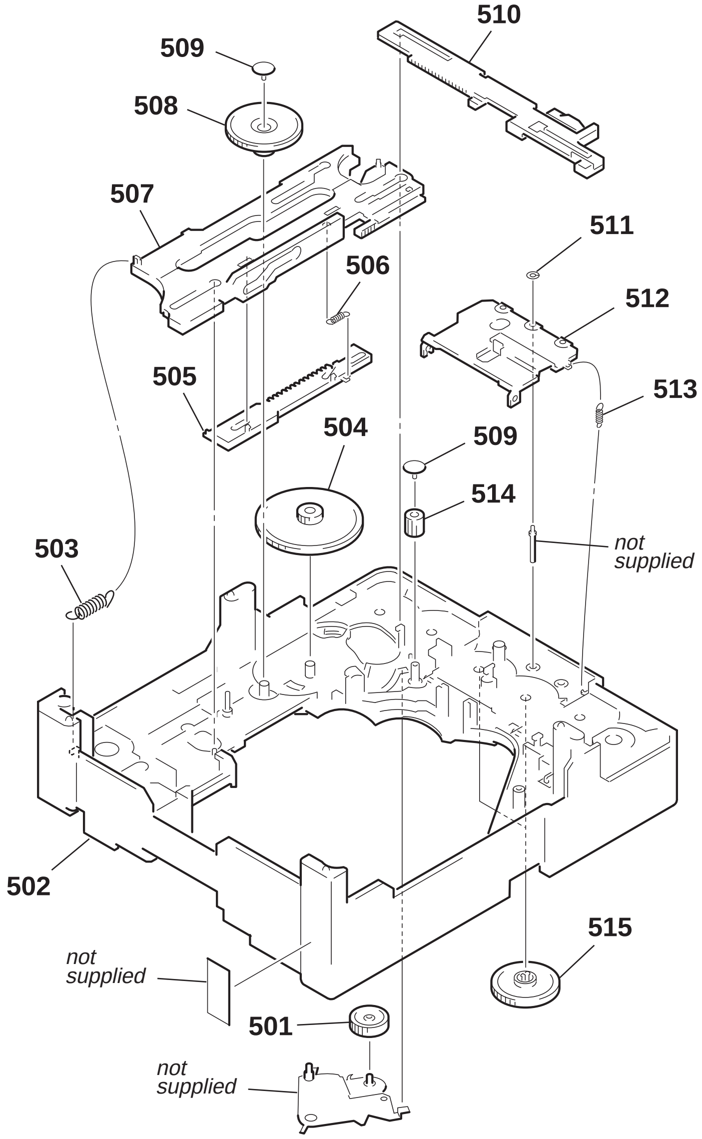
Ref. No.	Part No.	Description	Remark
401	4-985-672-01	SCREW (+PTPWHM2.6), FLOATING	
403	4-245-653-01	BELT (MOT)	
404	4-245-662-02	PULLEY (GEAR)	
405	4-245-646-01	GEAR (IDL-F)	
406	4-245-644-01	GEAR (IDL-D)	
407	4-245-645-01	GEAR (IDL-E)	
408	4-246-203-01	LEVER (RELEASE)	
409	4-245-630-01	LEVER (SW)	
410	4-951-620-01	SCREW (2.6X8), +BVTP	
411	4-245-639-01	LEVER (CL UP2)	
412	1-688-337-11	DRIVER BOARD	
413	1-763-967-11	MOTOR, DC	
M701	X-2021-530-1	MOTOR (PULLEY) ASSY (LOADING)	
#9	7-685-106-19	SCREW +P 2X10 TYPE2 NON-SLIT	

7-7. CD MECHANISM DECK SECTION-2 (CDM80BH-F1BD81)



Ref. No.	Part No.	Description	Remark
451	4-245-627-01	WASHER (6-2.7-0.4)	
452	4-245-637-01	ROLLER, RUBBER	
453	4-245-649-01	GEAR (IDL-I)	
454	4-245-657-01	LEVER (LOADING-R)	
455	4-245-647-01	GEAR (IDL-G)	
456	4-245-648-01	GEAR (IDL-H)	
457	4-245-655-01	CHASSIS (TOP)	
458	4-245-631-01	SPR-T (LOADING-R)	
459	4-245-650-01	GEAR (IDL-J)	
460	4-245-651-01	GEAR (IDL-L)	
461	4-245-640-01	GEAR (CAP)	
462	1-452-925-21	MAGNET ASSY	
463	4-245-638-01	LEVER (CL UP1)	
464	4-985-672-01	SCREW (+PTPWHM2.6), FLOATING	
465	4-245-636-01	SPR-T CL DOWN	
466	4-245-658-01	LEVER (DISC STOP)	
467	4-245-659-01	LEVER (DISC SENSOR)	
468	4-245-632-01	SPR-T (LOADING-L)	
469	X-2021-532-1	CLAMPER 213 ASSY	
470	4-245-656-01	LEVER (LOADING-L)	

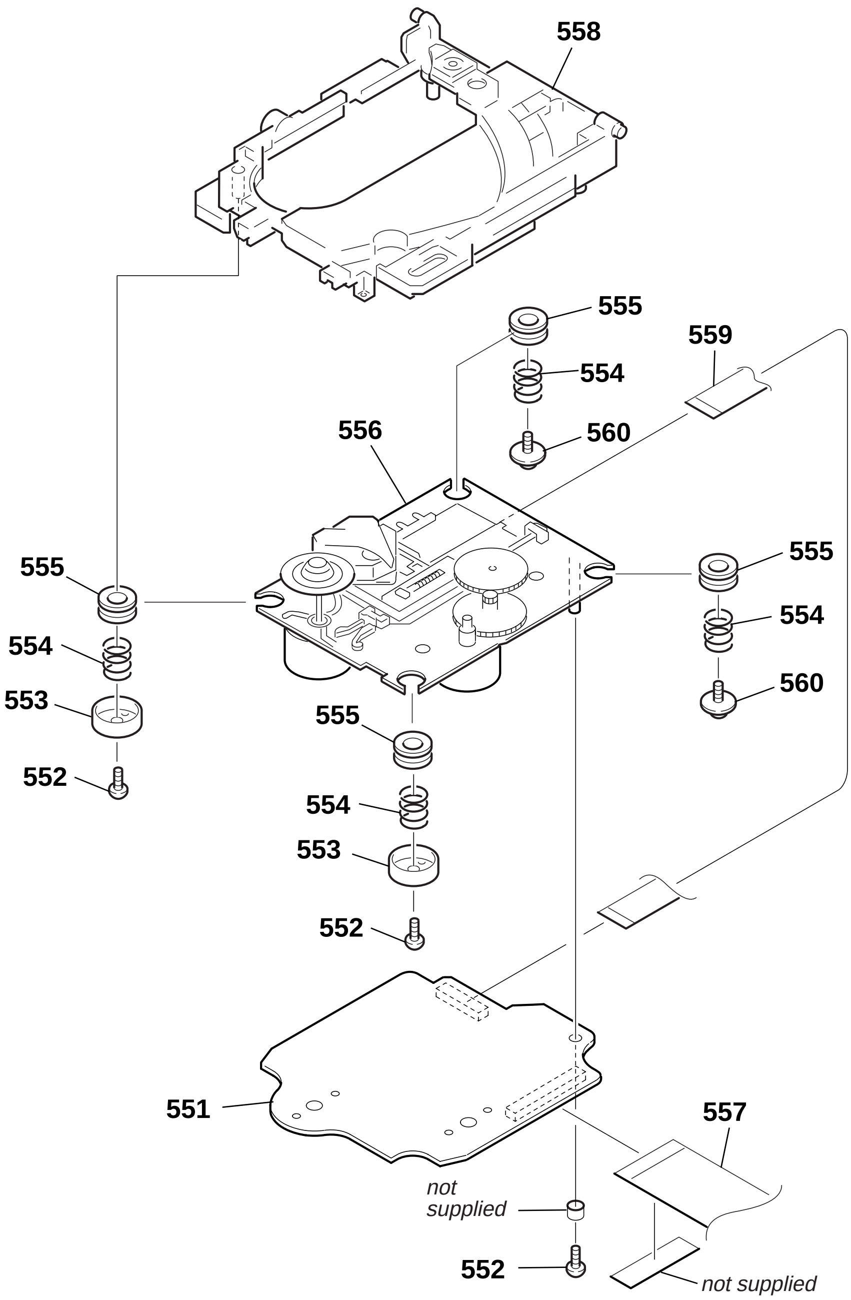
7-8. CD MECHANISM DECK SECTION-3 (CDM80BH-F1BD81)



Ref. No.	Part No.	Description	Remark
501	4-245-643-01	GEAR (IDL-C)	
502	X-4956-147-1	CHASSIS (BOTTOM) ASSY	
503	4-248-722-01	SPR-E, DIR	
504	4-245-642-01	GEAR (IDL-B)	
505	4-245-814-01	LEVER (DIR FIRST)	
506	4-245-633-01	SPR-E DIR BACK	
507	4-245-660-01	LEVER (DIR)	
508	4-245-641-01	GEAR (IDL-A)	

Ref. No.	Part No.	Description	Remark
509	4-245-640-01	GEAR (CAP)	
510	4-245-628-01	LEVER (BU LOCK)	
511	4-248-206-01	WASHER (3-1-0.4)	
512	4-245-624-01	LEVER, CLOSE	
513	4-245-635-01	SPR-E LEVER CLOSE	
514	4-245-629-01	GEAR (BU LOCK)	
515	4-245-644-01	GEAR (IDL-D)	

7-9. BASE UNIT SECTION (BU-F1BD81A)



Ref. No.	Part No.	Description	Remark
551	A-4751-431-A	BD81A BOARD, COMPLETE	
552	4-951-620-01	SCREW (2.6X8), +BVTP	
553	4-231-151-01	STOPPER (BU)	
554	4-227-045-31	SPRING (INSULATOR), COIL	
555	4-227-549-11	INSULATOR	

Ref. No.	Part No.	Description	Remark
⚠556	8-820-244-01	OPTICAL PICK-UP (KSM-215DCP/C2NP)	
557	1-775-241-11	WIRE (FLAT TYPE) (27 CORE)	
558	X-4956-146-1	HOLDER (BU215) ASSY	
559	1-827-992-11	WIRE (FLAT TYPE)(16 CORE)	
560	4-985-672-01	SCREW (+PTPWHM2.6), FLOATING	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

SECTION 8
ELECTRICAL PARTS LIST

BACK LIGHT **BD81A**

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms.
  METAL: Metal-film resistor.
  METAL OXIDE: Metal oxide-film resistor.
  F: nonflammable
- CAPACITORS
  uF: μF
- COILS
  uH: μH
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u: μ, for example:
  uA. . : μA. . uPA. . : μPA. .
  uPB. . : μPB. . uPC. . : μPC. .
  uPD. . : μPD. .
- Accessories are given in the last of this parts list.
- Abbreviation
  AUS : Australian model
  KR : Korean model

When indicating parts by reference number, please include the board name.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

Ref. No.	Part No.	Description			Remark
		BACK LIGHT BOARD			
		****************			
		< CONNECTOR >			
CN807	1-770-011-41	CONNECTOR, BOARD TO BOARD 4P			
		< DIODE >			
D806	8-719-075-50	DIODE SELS6B14C-TP5 (LCD BACK LIGHT)			
D807	8-719-075-50	DIODE SELS6B14C-TP5 (LCD BACK LIGHT)			

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Ref. No.	Part No.	Description			Remark
	A-4751-431-A	BD81A BOARD, COMPLETE			
		**********************			
		< CAPACITOR >			
C10	1-165-989-11	CERAMIC CHIP	10uF	10%	6.3V
C11	1-165-989-11	CERAMIC CHIP	10uF	10%	6.3V
C14	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C15	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C16	1-115-156-11	CERAMIC CHIP	1uF		10V
C17	1-126-246-11	ELECT CHIP	220uF	20%	4V
C18	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C111	1-162-967-11	CERAMIC CHIP	0.0033uF	10%	50V
C112	1-164-315-11	CERAMIC CHIP	470PF	5%	50V
C113	1-162-967-11	CERAMIC CHIP	0.0033uF	10%	50V
C114	1-164-315-11	CERAMIC CHIP	470PF	5%	50V
C115	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C116	1-128-995-21	ELECT CHIP	100uF	20%	10V
C122	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C123	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C124	1-162-959-11	CERAMIC CHIP	330PF	5%	50V
C125	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C131	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C132	1-117-863-11	CERAMIC CHIP	0.47uF	10%	6.3V
C133	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C134	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C141	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C142	1-162-965-11	CERAMIC CHIP	0.0015uF	10%	50V
C143	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C151	1-128-995-21	ELECT CHIP	100uF	20%	10V
C161	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C162	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C163	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C171	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C172	1-162-920-11	CERAMIC CHIP	27PF	5%	50V
C174	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C181	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C182	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C183	1-124-778-00	ELECT CHIP	22uF	20%	6.3V
C184	1-124-778-00	ELECT CHIP	22uF	20%	6.3V
C185	1-164-315-11	CERAMIC CHIP	470PF	5%	50V
C186	1-164-315-11	CERAMIC CHIP	470PF	5%	50V
C194	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C195	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C196	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C201	1-128-995-21	ELECT CHIP	100uF	20%	10V
C203	1-128-995-21	ELECT CHIP	100uF	20%	10V
C209	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C210	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C211	1-164-230-11	CERAMIC CHIP	220PF	5%	50V
C212	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C213	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C251	1-162-969-11	CERAMIC CHIP	0.0068uF	10%	25V
C252	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C255	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C257	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C258	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C259	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C260	1-128-394-11	ELECT CHIP	220uF	20%	10V
C302	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C303	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C305	1-126-246-11	ELECT CHIP	220uF	20%	4V
C306	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C307	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C308	1-126-208-21	ELECT CHIP	47uF	20%	4V
C309	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C310	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C311	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C312	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C313	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C314	1-126-208-21	ELECT CHIP	47uF	20%	4V
C315	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C316	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C317	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C318	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C320	1-216-864-11	SHORT CHIP	0		

Ref. No.	Part No.	Description			Remark
		< CONNECTOR >			
CN101	1-770-425-11	CONNECTOR, FFC/FPC 16P			
CN201	1-818-350-11	CONNECTOR (FFC) 27P			
		< FERRITE BEAD >			
FB301	1-500-445-21	FERRITE, EMI (SMD) (2012)			
		< IC >			
IC101	8-752-425-12	IC CXD3059AR			
IC251	6-705-808-01	IC BA5947FM			
IC301	6-705-365-01	IC TC94A34FG-002			
IC303	6-705-807-01	IC BH15FB1WG			
		< TRANSISTOR >			
Q10	6-550-363-01	TRANSISTOR	2SB1690KT146		
		< RESISTOR >			
R10	1-216-791-11	METAL CHIP	3.3	5%	1/10W
R11	1-216-864-11	SHORT CHIP	0		
R12	1-216-845-11	METAL CHIP	100K	5%	1/10W
R13	1-218-446-11	METAL CHIP	1	5%	1/10W
R111	1-216-821-11	METAL CHIP	1K	5%	1/10W
R112	1-216-835-11	METAL CHIP	15K	5%	1/10W
R113	1-216-821-11	METAL CHIP	1K	5%	1/10W
R114	1-216-835-11	METAL CHIP	15K	5%	1/10W
R121	1-216-835-11	METAL CHIP	15K	5%	1/10W
R131	1-216-857-11	METAL CHIP	1M	5%	1/10W
R132	1-216-833-11	METAL CHIP	10K	5%	1/10W
R133	1-216-848-11	METAL CHIP	180K	5%	1/10W
R141	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R142	1-216-821-11	METAL CHIP	1K	5%	1/10W
R143	1-216-827-11	METAL CHIP	3.3K	5%	1/10W
R151	1-216-864-11	SHORT CHIP	0		
R161	1-216-809-11	METAL CHIP	100	5%	1/10W
R162	1-216-841-11	METAL CHIP	47K	5%	1/10W
R163	1-216-809-11	METAL CHIP	100	5%	1/10W
R165	1-216-864-11	SHORT CHIP	0		
R171	1-216-817-11	METAL CHIP	470	5%	1/10W
R172	1-216-857-11	METAL CHIP	1M	5%	1/10W
R173	1-216-295-91	SHORT CHIP	0		
R181	1-216-809-11	METAL CHIP	100	5%	1/10W
R182	1-216-809-11	METAL CHIP	100	5%	1/10W
R191	1-216-864-11	SHORT CHIP	0		
R201	1-500-445-21	FERRITE, EMI (SMD) (2012)			
R203	1-216-864-11	SHORT CHIP	0		
R204	1-500-445-21	FERRITE, EMI (SMD) (2012)			
R205	1-216-864-11	SHORT CHIP	0		
R251	1-216-833-11	METAL CHIP	10K	5%	1/10W
R252	1-216-837-11	METAL CHIP	22K	5%	1/10W
R253	1-216-833-11	METAL CHIP	10K	5%	1/10W
R301	1-216-845-11	METAL CHIP	100K	5%	1/10W
R302	1-216-833-11	METAL CHIP	10K	5%	1/10W
R303	1-216-845-11	METAL CHIP	100K	5%	1/10W
R305	1-216-845-11	METAL CHIP	100K	5%	1/10W
R306	1-216-864-11	SHORT CHIP	0		
R307	1-216-833-11	METAL CHIP	10K	5%	1/10W
R313	1-216-813-11	METAL CHIP	220	5%	1/10W
R351	1-216-809-11	METAL CHIP	100	5%	1/10W
R352	1-216-809-11	METAL CHIP	100	5%	1/10W
R353	1-216-809-11	METAL CHIP	100	5%	1/10W
R354	1-216-809-11	METAL CHIP	100	5%	1/10W
R401	1-216-809-11	METAL CHIP	100	5%	1/10W
R402	1-216-809-11	METAL CHIP	100	5%	1/10W
R403	1-216-809-11	METAL CHIP	100	5%	1/10W
R404	1-216-809-11	METAL CHIP	100	5%	1/10W
R405	1-216-809-11	METAL CHIP	100	5%	1/10W
R406	1-216-809-11	METAL CHIP	100	5%	1/10W
R407	1-216-809-11	METAL CHIP	100	5%	1/10W
R408	1-216-809-11	METAL CHIP	100	5%	1/10W
R409	1-216-809-11	METAL CHIP	100	5%	1/10W
R410	1-216-809-11	METAL CHIP	100	5%	1/10W
R411	1-216-809-11	METAL CHIP	100	5%	1/10W
R412	1-216-809-11	METAL CHIP	100	5%	1/10W
R419	1-216-809-11	METAL CHIP	100	5%	1/10W
		< SWITCH >			
S101	1-771-853-11	SWITCH,DETECTION (LIMIT)			
		< VIBRATOR >			
X171	1-767-408-21	VIBRATOR, CRYSTAL (16.9MHz)			

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Ref. No.	Part No.	Description			Remark
	1-688-337-11	DRIVER BOARD			
		************			
		< CAPACITOR >			
C705	1-162-306-11	CERAMIC	0.01uF	20%	16V
C711	1-126-964-11	ELECT	10uF	20%	50V
		< CONNECTOR >			
CN701	1-785-333-11	PIN, CONNECTOR (LIGHT ANGLE) 7P			
		< DIODE >			
D701	8-719-921-40	DIODE MTZJ-4.7C			
		< IC >			
IC701	8-759-598-69	IC BA6956AN			
		< RESISTOR >			
R701	1-249-415-11	CARBON	680	5%	1/4W
R702	1-247-807-31	CARBON	100	5%	1/4W
		< SWITCH >			
S701	1-762-951-13	SWITCH, PUSH (OUT)			
S702	1-762-951-13	SWITCH, PUSH (CHUCK)			
S703	1-762-951-13	SWITCH, PUSH (TRIGGER)			

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Ref. No.	Part No.	Description			Remark
		HP BOARD			
		*********			
		< CAPACITOR >			
C891	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C892	1-164-156-11	CERAMIC CHIP	0.1uF		25V

HP **LCD** **MAIN**

Ref. No.	Part No.	Description			Remark
C894	1-164-156-11	CERAMIC CHIP	0.1uF		25V
		< FERRITE BEAD >			
FB891	1-216-864-11	SHORT CHIP	0		
FB893	1-216-864-11	SHORT CHIP	0		
FB894	1-216-864-11	SHORT CHIP	0		
		< JACK >			
J801	1-815-603-11	JACK (PHONES)			

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Ref. No.	Part No.	Description			Remark
	1-861-335-11	LCD BOARD **********			
		< CAPACITOR >			
C854	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C856	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C857	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C858	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C859	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C860	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
		< CONNECTOR >			
CN805	1-784-731-11	CONNECTOR, FFC 9P			
CN806	1-770-010-21	CONNECTOR, BOARD TO BOARD 4P			
		< SHORT >			
JR801	1-216-296-11	SHORT CHIP	0		
JR802	1-216-296-11	SHORT CHIP	0		
JR803	1-216-296-11	SHORT CHIP	0		
JR804	1-216-296-11	SHORT CHIP	0		
JR805	1-216-296-11	SHORT CHIP	0		
JR806	1-216-296-11	SHORT CHIP	0		
		< LIQUID CRYSTAL DISPLAY >			
LCD800	1-805-545-11	DISPLAY PANEL, LIQUID CRYSTAL			
		< RESISTOR >			
R841	1-216-817-11	METAL CHIP	470	5%	1/10W
R842	1-216-817-11	METAL CHIP	470	5%	1/10W
R843	1-216-817-11	METAL CHIP	470	5%	1/10W
R844	1-216-817-11	METAL CHIP	470	5%	1/10W
R851	1-216-847-11	METAL CHIP	150K	5%	1/10W
R853	1-216-821-11	METAL CHIP	1K	5%	1/10W
R854	1-216-833-11	METAL CHIP	10K	5%	1/10W
R856	1-216-809-11	METAL CHIP	100	5%	1/10W
R857	1-216-809-11	METAL CHIP	100	5%	1/10W
R858	1-216-809-11	METAL CHIP	100	5%	1/10W
R859	1-216-809-11	METAL CHIP	100	5%	1/10W
R860	1-216-809-11	METAL CHIP	100	5%	1/10W

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Ref. No.	Part No.	Description			Remark
	A-4750-353-A	MAIN BOARD, COMPLETE (AEP, UK)			
	A-4750-940-A	MAIN BOARD, COMPLETE (KR, AUS) *********************			
	7-685-645-79	SCREW +BVTP 3X6 TYPE2 TT (B)			

Ref. No.	Part No.	Description			Remark
		< CAPACITOR >			
C213	1-162-923-11	CERAMIC CHIP	47PF	5%	50V
C218	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C219	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C221	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C222	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C223	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C224	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C228	1-104-658-91	ELECT	100uF	20%	10V
C229	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C230	1-104-658-91	ELECT	100uF	20%	10V
C231	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C232	1-104-658-91	ELECT	100uF	20%	10V
C233	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C234	1-104-658-91	ELECT	100uF	20%	10V
C235	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C236	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C237	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C238	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C239	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C240	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C241	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C251	1-126-961-11	ELECT	2.2uF	20%	50V
C252	1-126-961-11	ELECT	2.2uF	20%	50V
C267	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C268	1-104-658-91	ELECT	100uF	20%	10V
C301	1-126-916-11	ELECT	1000uF	20%	6.3V
C310	1-162-917-11	CERAMIC CHIP	15PF	5%	50V
C311	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C312	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C316	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C331	1-126-964-11	ELECT	10uF	20%	50V
C332	1-126-964-11	ELECT	10uF	20%	50V
C351	1-126-937-11	ELECT	4700uF	20%	16V
C352	1-126-956-91	ELECT	0.1uF	20%	50V
C353	1-126-925-91	ELECT	470uF	20%	10V
C354	1-126-956-91	ELECT	0.1uF	20%	50V
C355	1-126-925-91	ELECT	470uF	20%	10V
C356	1-126-956-91	ELECT	0.1uF	20%	50V
C357	1-126-925-91	ELECT	470uF	20%	10V
C358	1-126-956-91	ELECT	0.1uF	20%	50V
C359	1-104-658-91	ELECT	100uF	20%	10V
C360	1-126-925-91	ELECT	470uF	20%	10V
C364	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C401	1-126-964-11	ELECT	10uF	20%	50V
C450	1-104-658-91	ELECT	100uF	20%	10V
C451	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C502	1-130-495-00	MYLAR	0.1uF	5%	50V
C503	1-130-495-00	MYLAR	0.1uF	5%	50V
		< CONNECTOR >			
CN201	1-779-295-11	CONNECTOR, FFC (LIF (NON-ZIF)) 27P			
CN202	1-785-319-11	PIN, CONNECTOR (STRAIGHT) 7P			
CN301	1-564-505-11	PLUG, CONNECTOR 2P			
CN302	1-785-315-11	PIN, CONNECTOR (STRAIGHT) 3P			
CN303	1-784-780-11	CONNECTOR, FFC 19P			

MAIN

Ref. No.	Part No.	Description		Remark
CN304	1-568-828-11	CONNECTOR, FFC 9P		
CN306	1-784-780-11	CONNECTOR, FFC 19P		
CN307	1-568-830-11	CONNECTOR, FFC 11P (KR, AUS)		
CN307	1-784-776-11	CONNECTOR, FFC 15P (AEP, UK)		
CN308	1-784-780-11	CONNECTOR, FFC 19P		
CN309	1-568-838-11	CONNECTOR, FFC 21P		
		< DIODE >		
D201	8-719-988-61	DIODE	1SS355TE-17	
D202	6-500-522-31	DIODE	10EDB40-TB5	
D203	6-500-522-31	DIODE	10EDB40-TB5	
D204	6-500-522-31	DIODE	10EDB40-TB5	
D205	6-500-522-31	DIODE	10EDB40-TB5	
D301	8-719-988-61	DIODE	1SS355TE-17	
D302	8-719-988-61	DIODE	1SS355TE-17	
D303	8-719-988-61	DIODE	1SS355TE-17	
D304	8-719-988-61	DIODE	1SS355TE-17	
D350	6-500-522-31	DIODE	10EDB40-TB5	
D351	6-500-522-31	DIODE	10EDB40-TB5	
D352	6-500-522-31	DIODE	10EDB40-TB5	
D374	8-719-988-61	DIODE	1SS355TE-17	
D375	8-719-988-61	DIODE	1SS355TE-17	
D401	8-719-988-61	DIODE	1SS355TE-17	
D402	8-719-988-61	DIODE	1SS355TE-17	
D403	8-719-988-61	DIODE	1SS355TE-17	
D404	8-719-988-61	DIODE	1SS355TE-17	
D442	1-216-295-91	SHORT CHIP	0	
D443	1-216-295-91	SHORT CHIP	0	
		< EARTH TERMINAL >		
* EP301	1-537-738-21	TERMINAL, EARTH		
* EP302	1-537-738-21	TERMINAL, EARTH		
		< FERRITE BEAD >		
FB201	1-414-772-11	FERRITE. EMI (SMD) (2012)		
FB203	1-414-772-11	FERRITE. EMI (SMD) (2012)		
FB205	1-414-772-11	FERRITE. EMI (SMD) (2012)		
FB207	1-414-772-11	FERRITE. EMI (SMD) (2012)		
FB214	1-414-772-11	FERRITE. EMI (SMD) (2012)		
FB216	1-414-772-11	FERRITE. EMI (SMD) (2012)		
FB225	1-414-772-11	FERRITE. EMI (SMD) (2012)		
FB227	1-414-772-11	FERRITE. EMI (SMD) (2012)		
FB301	1-216-864-11	SHORT CHIP	0	
FB302	1-216-864-11	SHORT CHIP	0	
FB303	1-216-864-11	SHORT CHIP	0	
		< IC >		
IC201	8-759-701-59	IC	NJM78M09FA	
IC202	8-759-071-48	IC	TA7807S	
IC203	6-703-546-01	IC	TA7804LS	
IC204	8-759-231-53	IC	TA7805S	
IC300	6-804-485-01	IC	M3062CMEN-A14FPU0	
IC401	8-759-532-64	IC	M62703SL-TP	
IC450	8-749-019-25	IC	TOTX141 (CD DIGITAL OUT (OPTICAL))	
		< TRANSISTOR >		
Q201	8-729-049-79	TRANSISTOR	RT1P137S-TP	

Ref. No.	Part No.	Description			Remark
Q202	8-729-027-43	TRANSISTOR	DTC114EKA-T146		
Q331	8-729-027-23	TRANSISTOR	DTA114EKA-T146		
Q332	8-729-027-43	TRANSISTOR	DTC114EKA-T146		
Q333	8-729-027-30	TRANSISTOR	DTA123YKA-T146		
Q334	8-729-027-43	TRANSISTOR	DTC114EKA-T146		
Q340	8-729-027-43	TRANSISTOR	DTC114EKA-T146		
Q341	8-729-027-23	TRANSISTOR	DTA114EKA-T146		
Q342	8-729-107-43	TRANSISTOR	2SC3624-L18		
Q343	8-729-107-43	TRANSISTOR	2SC3624-L18		
Q401	8-729-119-78	TRANSISTOR	2SC2785-HFE		
		< RESISTOR >			
R251	1-216-821-11	METAL CHIP	1K	5%	1/10W
R252	1-216-821-11	METAL CHIP	1K	5%	1/10W
R253	1-216-845-11	METAL CHIP	100K	5%	1/10W
R254	1-216-845-11	METAL CHIP	100K	5%	1/10W
R301	1-216-809-11	METAL CHIP	100	5%	1/10W
R302	1-216-809-11	METAL CHIP	100	5%	1/10W
R303	1-216-809-11	METAL CHIP	100	5%	1/10W
R304	1-216-809-11	METAL CHIP	100	5%	1/10W
R305	1-216-809-11	METAL CHIP	100	5%	1/10W
R306	1-216-809-11	METAL CHIP	100	5%	1/10W
R307	1-216-809-11	METAL CHIP	100	5%	1/10W
R309	1-216-833-11	METAL CHIP	10K	5%	1/10W
R311	1-216-851-11	METAL CHIP	330K	5%	1/10W
R313	1-216-864-11	SHORT CHIP	0		
R317	1-216-833-11	METAL CHIP	10K	5%	1/10W
R318	1-216-809-11	METAL CHIP	100	5%	1/10W (AEP, UK)
R319	1-216-809-11	METAL CHIP	100	5%	1/10W
R320	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R321	1-216-809-11	METAL CHIP	100	5%	1/10W
R322	1-216-809-11	METAL CHIP	100	5%	1/10W
R323	1-216-809-11	METAL CHIP	100	5%	1/10W
R326	1-216-809-11	METAL CHIP	100	5%	1/10W
R327	1-216-809-11	METAL CHIP	100	5%	1/10W
R328	1-216-809-11	METAL CHIP	100	5%	1/10W
R332	1-216-809-11	METAL CHIP	100	5%	1/10W
R333	1-216-809-11	METAL CHIP	100	5%	1/10W
R334	1-216-809-11	METAL CHIP	100	5%	1/10W
R335	1-216-809-11	METAL CHIP	100	5%	1/10W
R336	1-216-809-11	METAL CHIP	100	5%	1/10W
R337	1-216-809-11	METAL CHIP	100	5%	1/10W
R339	1-216-809-11	METAL CHIP	100	5%	1/10W
R340	1-216-809-11	METAL CHIP	100	5%	1/10W
R341	1-216-809-11	METAL CHIP	100	5%	1/10W
R342	1-216-809-11	METAL CHIP	100	5%	1/10W
R343	1-216-809-11	METAL CHIP	100	5%	1/10W
R344	1-216-809-11	METAL CHIP	100	5%	1/10W
R345	1-216-809-11	METAL CHIP	100	5%	1/10W
R346	1-216-809-11	METAL CHIP	100	5%	1/10W
R347	1-216-809-11	METAL CHIP	100	5%	1/10W
R348	1-216-809-11	METAL CHIP	100	5%	1/10W
R349	1-216-809-11	METAL CHIP	100	5%	1/10W
R350	1-216-809-11	METAL CHIP	100	5%	1/10W
R351	1-216-809-11	METAL CHIP	100	5%	1/10W
R352	1-216-809-11	METAL CHIP	100	5%	1/10W
R353	1-216-809-11	METAL CHIP	100	5%	1/10W

MAIN PANEL

Ref. No.	Part No.	Description			Remark
R354	1-216-809-11	METAL CHIP	100	5%	1/10W (AEP, UK)
R355	1-216-809-11	METAL CHIP	100	5%	1/10W
R357	1-216-809-11	METAL CHIP	100	5%	1/10W
R361	1-216-809-11	METAL CHIP	100	5%	1/10W
R365	1-216-809-11	METAL CHIP	100	5%	1/10W
R366	1-216-809-11	METAL CHIP	100	5%	1/10W
R367	1-216-809-11	METAL CHIP	100	5%	1/10W
R368	1-216-809-11	METAL CHIP	100	5%	1/10W
R369	1-216-809-11	METAL CHIP	100	5%	1/10W
R370	1-216-809-11	METAL CHIP	100	5%	1/10W
R371	1-216-809-11	METAL CHIP	100	5%	1/10W
R372	1-216-809-11	METAL CHIP	100	5%	1/10W
R373	1-216-809-11	METAL CHIP	100	5%	1/10W
R375	1-216-809-11	METAL CHIP	100	5%	1/10W
R376	1-216-809-11	METAL CHIP	100	5%	1/10W
R377	1-216-809-11	METAL CHIP	100	5%	1/10W
R378	1-216-809-11	METAL CHIP	100	5%	1/10W
R379	1-216-809-11	METAL CHIP	100	5%	1/10W
R380	1-216-809-11	METAL CHIP	100	5%	1/10W
R381	1-216-809-11	METAL CHIP	100	5%	1/10W
R382	1-216-809-11	METAL CHIP	100	5%	1/10W
R383	1-216-809-11	METAL CHIP	100	5%	1/10W
R384	1-216-809-11	METAL CHIP	100	5%	1/10W
R385	1-216-809-11	METAL CHIP	100	5%	1/10W
R386	1-216-809-11	METAL CHIP	100	5%	1/10W
R387	1-216-809-11	METAL CHIP	100	5%	1/10W
R388	1-216-809-11	METAL CHIP	100	5%	1/10W
R389	1-216-809-11	METAL CHIP	100	5%	1/10W
R390	1-216-809-11	METAL CHIP	100	5%	1/10W
R391	1-216-809-11	METAL CHIP	100	5%	1/10W
R392	1-216-864-11	SHORT CHIP	0		
R393	1-216-864-11	SHORT CHIP	0 (KR, AUS)		
R394	1-216-797-11	METAL CHIP	10	5%	1/10W
R395	1-216-797-11	METAL CHIP	10	5%	1/10W
R397	1-216-797-11	METAL CHIP	10	5%	1/10W
R400	1-216-809-11	METAL CHIP	100	5%	1/10W
R401	1-216-813-11	METAL CHIP	220	5%	1/10W
R402	1-216-833-11	METAL CHIP	10K	5%	1/10W
R403	1-216-841-11	METAL CHIP	47K	5%	1/10W
R404	1-216-841-11	METAL CHIP	47K	5%	1/10W
R405	1-216-833-11	METAL CHIP	10K	5%	1/10W
R406	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R418	1-216-864-11	SHORT CHIP	0 (KR, AUS)		
R420	1-216-833-11	METAL CHIP	10K	5%	1/10W
R426	1-216-833-11	METAL CHIP	10K	5%	1/10W
R427	1-216-833-11	METAL CHIP	10K	5%	1/10W
R428	1-216-833-11	METAL CHIP	10K	5%	1/10W
R429	1-216-833-11	METAL CHIP	10K	5%	1/10W
R430	1-216-833-11	METAL CHIP	10K	5%	1/10W
R440	1-216-833-11	METAL CHIP	10K	5%	1/10W
R442	1-216-833-11	METAL CHIP	10K	5%	1/10W
R443	1-216-833-11	METAL CHIP	10K	5%	1/10W
R450	1-216-809-11	METAL CHIP	100	5%	1/10W
R451	1-216-833-11	METAL CHIP	10K	5%	1/10W
R452	1-216-833-11	METAL CHIP	10K	5%	1/10W
R455	1-216-864-11	SHORT CHIP	0 (KR, AUS)		
R474	1-216-857-11	METAL CHIP	1M	5%	1/10W

Ref. No.	Part No.	Description			Remark
R483	1-216-833-11	METAL CHIP	10K	5%	1/10W
R484	1-216-833-11	METAL CHIP	10K	5%	1/10W
R485	1-216-833-11	METAL CHIP	10K	5%	1/10W
R486	1-216-833-11	METAL CHIP	10K	5%	1/10W
R487	1-216-833-11	METAL CHIP	10K	5%	1/10W
R488	1-216-833-11	METAL CHIP	10K	5%	1/10W
R493	1-216-864-11	SHORT CHIP	0 (AEP, UK)		
R494	1-216-833-11	METAL CHIP	10K	5%	1/10W
R495	1-216-833-11	METAL CHIP	10K	5%	1/10W
R497	1-216-833-11	METAL CHIP	10K	5%	1/10W
R500	1-216-833-11	METAL CHIP	10K	5%	1/10W
		< VIBRATOR >			
X401	1-795-482-11	VIBRATOR, CERAMIC (16MHz)			
X402	1-760-252-12	VIBRATOR, CRYSTAL (32.768kHz)			

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Ref. No.	Part No.	Description			Remark
	A-4750-358-A	PANEL BOARD, COMPLETE			
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		< CAPACITOR >			
C803	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C804	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C805	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C806	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C807	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C808	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C817	1-126-947-11	ELECT	47uF	20%	35V
		< CONNECTOR >			
CN801	1-784-780-11	CONNECTOR, FFC 19P			
CN802	1-785-330-11	PIN, CONNECTOR (LIGHT ANGLE) 4P			
		< DIODE >			
D812	8-719-046-36	DIODE SEL5921A-TP15 (DSGX)			
D813	8-719-812-44	DIODE TLO124 (STAND BY)			
D816	8-719-046-36	DIODE SEL5921A-TP15 (TUNER/BAND)			
D818	8-719-046-36	DIODE SEL5921A-TP15 (TAPE ◄►)			
		< IC >			
IC802	6-600-349-31	IC NJL24H400A (R)			
		< TRANSISTOR >			
Q812	8-729-027-43	TRANSISTOR	DTC114EKA-T146		
Q813	8-729-027-43	TRANSISTOR	DTC114EKA-T146		
Q816	8-729-027-43	TRANSISTOR	DTC114EKA-T146		
Q818	8-729-027-43	TRANSISTOR	DTC114EKA-T146		
		< RESISTOR >			
R801	1-216-821-11	METAL CHIP	1K	5%	1/10W
R802	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R803	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R804	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R805	1-216-821-11	METAL CHIP	1K	5%	1/10W
R806	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R807	1-216-821-11	METAL CHIP	1K	5%	1/10W
R808	1-216-825-11	METAL CHIP	2.2K	5%	1/10W

Ref. No.	Part No.	Description			Remark
R809	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R810	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R811	1-216-833-11	METAL CHIP	10K	5%	1/10W
R812	1-216-837-11	METAL CHIP	22K	5%	1/10W
R813	1-216-809-11	METAL CHIP	100	5%	1/10W
R814	1-216-809-11	METAL CHIP	100	5%	1/10W
R815	1-216-809-11	METAL CHIP	100	5%	1/10W
R816	1-216-809-11	METAL CHIP	100	5%	1/10W
R821	1-216-817-11	METAL CHIP	470	5%	1/10W
R822	1-216-817-11	METAL CHIP	470	5%	1/10W
R823	1-216-817-11	METAL CHIP	470	5%	1/10W
R825	1-216-805-11	METAL CHIP	47	5%	1/10W
R826	1-216-817-11	METAL CHIP	470	5%	1/10W
R828	1-216-817-11	METAL CHIP	470	5%	1/10W
		< VARIABLE RESISTOR >			
RV803	1-476-730-11	ENCODER, ROTARY (VOLUME)			
RV805	1-418-859-21	ENCODER, ROTARY (BASS)			
RV807	1-418-859-21	ENCODER, ROTARY (TREBLE)			
		< SWITCH >			
S801	1-762-875-21	SWITCH, KEYBOARD (I/⏻)			
S802	1-762-875-21	SWITCH, KEYBOARD (DSGX)			
S803	1-762-875-21	SWITCH, KEYBOARD (PLAY MODE/DIRECTION/TUNING MODE)			
S804	1-762-875-21	SWITCH, KEYBOARD (REPEAT/FM MODE)			
S805	1-762-875-21	SWITCH, KEYBOARD (CD SYNCHRO)			
S806	1-762-875-21	SWITCH, KEYBOARD (FUNCTON)			
S807	1-771-574-21	SWITCH, TACTILE (TUNING + ▷▷I▶▶)			
S808	1-771-574-21	SWITCH, TACTILE (– TUNING I◁◁◀◀)			
S809	1-762-875-21	SWITCH, KEYBOARD (DISPLAY)			
S810	1-762-875-21	SWITCH, KEYBOARD (TUNER/BAND)			
S811	1-762-875-21	SWITCH, KEYBOARD ((CD) ⏏)			
S812	1-762-875-21	SWITCH, KEYBOARD (● REC)			
S813	1-762-875-21	SWITCH, KEYBOARD ((TAPE) ❚❚)			
S814	1-762-875-21	SWITCH, KEYBOARD ((TAPE) ■)			
S815	1-762-875-21	SWITCH, KEYBOARD (TAPE ◀▶)			

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Ref. No.	Part No.	Description			Remark
	A-4750-356-A	PRE AMP BOARD, COMPLETE			
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		< CAPACITOR >			
C101	1-162-957-11	CERAMIC CHIP	220PF	5%	50V
C102	1-126-960-11	ELECT	1uF	20%	50V
C103	1-126-960-11	ELECT	1uF	20%	50V
C104	1-126-960-11	ELECT	1uF	20%	50V
C105	1-126-960-11	ELECT	1uF	20%	50V
C106	1-126-960-11	ELECT	1uF	20%	50V
C107	1-126-960-11	ELECT	1uF	20%	50V
C108	1-130-476-00	MYLAR	0.0027uF	5%	50V
C109	1-130-496-00	MYLAR	0.12uF	5%	50V
C110	1-130-496-00	MYLAR	0.12uF	5%	50V
C111	1-126-964-11	ELECT	10uF	20%	50V
C121	1-126-964-11	ELECT	10uF	20%	50V
C122	1-162-915-11	CERAMIC CHIP	10PF	0.5PF	50V
C123	1-126-964-11	ELECT	10uF	20%	50V
C124	1-126-923-91	ELECT	220uF	20%	10V
C129	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C131	1-104-658-91	ELECT	100uF	20%	10V
C132	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C133	1-104-658-91	ELECT	100uF	20%	10V
C141	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C151	1-162-957-11	CERAMIC CHIP	220PF	5%	50V
C152	1-126-960-11	ELECT	1uF	20%	50V
C153	1-126-960-11	ELECT	1uF	20%	50V
C154	1-126-960-11	ELECT	1uF	20%	50V
C155	1-126-960-11	ELECT	1uF	20%	50V
C156	1-126-960-11	ELECT	1uF	20%	50V
C157	1-126-960-11	ELECT	1uF	20%	50V
C158	1-130-476-00	MYLAR	0.0027uF	5%	50V
C159	1-130-496-00	MYLAR	0.12uF	5%	50V
C160	1-130-496-00	MYLAR	0.12uF	5%	50V
C161	1-126-964-11	ELECT	10uF	20%	50V
C171	1-126-964-11	ELECT	10uF	20%	50V
C172	1-162-915-11	CERAMIC CHIP	10PF	0.5PF	50V
C173	1-126-964-11	ELECT	10uF	20%	50V
C174	1-126-923-91	ELECT	220uF	20%	10V
C179	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C180	1-126-923-91	ELECT	220uF	20%	10V
C181	1-104-658-91	ELECT	100uF	20%	10V
C182	1-126-960-11	ELECT	1uF	20%	50V
C183	1-104-658-91	ELECT	100uF	20%	10V
C185	1-126-960-11	ELECT	1uF	20%	50V
		< CONNECTOR >			
CN101	1-784-780-11	CONNECTOR, FFC 19P			
CN102	1-785-330-11	PIN, CONNECTOR (LIGHT ANGLE) 4P			
		< IC >			
IC101	8-759-669-03	IC LC75342			
IC102	8-759-656-83	IC NJM4580MD-(TE2)			
		< JACK >			
J101	1-817-877-11	JACK, PIN 2P (MD (VIDEO))			
		< TRANSISTOR >			
Q101	8-729-107-43	TRANSISTOR	2SC3624-L18		
Q121	8-729-027-23	TRANSISTOR	DTA114EKA-T146		
Q122	8-729-027-43	TRANSISTOR	DTC114EKA-T146		
Q151	8-729-107-43	TRANSISTOR	2SC3624-L18		
Q180	8-729-107-43	TRANSISTOR	2SC3624-L18		
Q181	8-729-107-43	TRANSISTOR	2SC3624-L18		
Q182	8-729-107-43	TRANSISTOR	2SC3624-L18		
Q183	8-729-107-43	TRANSISTOR	2SC3624-L18		
Q184	8-729-027-23	TRANSISTOR	DTA114EKA-T146		
Q185	8-729-027-43	TRANSISTOR	DTC114EKA-T146		
		< RESISTOR >			
R101	1-216-833-11	METAL CHIP	10K	5%	1/10W
R102	1-216-832-11	METAL CHIP	8.2K	5%	1/10W
R103	1-216-828-11	METAL CHIP	3.9K	5%	1/10W
R104	1-216-821-11	METAL CHIP	1K	5%	1/10W
R105	1-216-833-11	METAL CHIP	10K	5%	1/10W

PRE AMP **S-MASTER AMP**

Ref. No.	Part No.	Description			Remark
R106	1-216-833-11	METAL CHIP	10K	5%	1/10W
R121	1-216-821-11	METAL CHIP	1K	5%	1/10W
R122	1-216-845-11	METAL CHIP	100K	5%	1/10W
R123	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R124	1-216-837-11	METAL CHIP	22K	5%	1/10W
R125	1-216-805-11	METAL CHIP	47	5%	1/10W
R126	1-216-845-11	METAL CHIP	100K	5%	1/10W
R131	1-216-809-11	METAL CHIP	100	5%	1/10W
R132	1-216-809-11	METAL CHIP	100	5%	1/10W
R133	1-216-809-11	METAL CHIP	100	5%	1/10W
R151	1-216-833-11	METAL CHIP	10K	5%	1/10W
R152	1-216-832-11	METAL CHIP	8.2K	5%	1/10W
R153	1-216-828-11	METAL CHIP	3.9K	5%	1/10W
R154	1-216-821-11	METAL CHIP	1K	5%	1/10W
R155	1-216-833-11	METAL CHIP	10K	5%	1/10W
R156	1-216-833-11	METAL CHIP	10K	5%	1/10W
R171	1-216-821-11	METAL CHIP	1K	5%	1/10W
R172	1-216-845-11	METAL CHIP	100K	5%	1/10W
R173	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R174	1-216-837-11	METAL CHIP	22K	5%	1/10W
R175	1-216-805-11	METAL CHIP	47	5%	1/10W
R176	1-216-845-11	METAL CHIP	100K	5%	1/10W
R180	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R181	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R182	1-216-826-11	METAL CHIP	2.7K	5%	1/10W
R183	1-216-833-11	METAL CHIP	10K	5%	1/10W
R184	1-216-821-11	METAL CHIP	1K	5%	1/10W
R185	1-216-821-11	METAL CHIP	1K	5%	1/10W

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A-4750-366-A S-MASTER AMP BOARD, COMPLETE
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7-685-645-79 SCREW +BVTP 3X6 TYPE2 TT (B)

< CAPACITOR >

Ref. No.	Part No.	Description			Remark
C600	1-128-549-11	ELECT	3300uF	20%	35V
C601	1-104-658-91	ELECT	100uF	20%	10V
C602	1-126-964-11	ELECT	10uF	20%	50V
C603	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C604	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C605	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C606	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C607	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C608	1-126-964-11	ELECT	10uF	20%	50V
C609	1-162-971-11	CERAMIC CHIP	0.001uF	10%	50V
C610	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C611	1-126-960-11	ELECT	1uF	20%	50V
C612	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C613	1-216-864-11	SHORT CHIP	0		
C614	1-162-915-11	CERAMIC CHIP	10PF	0.5PF	50V
C615	1-162-915-11	CERAMIC CHIP	10PF	0.5PF	50V
C616	1-104-662-91	ELECT	22uF	20%	25V
C617	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C618	1-162-908-11	CERAMIC CHIP	3PF	0.25PF	50V
C619	1-162-908-11	CERAMIC CHIP	3PF	0.25PF	50V
C620	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C621	1-126-960-11	ELECT	1uF	20%	50V
C622	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C623	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C625	1-126-963-11	ELECT	4.7uF	20%	50V
C628	1-126-963-11	ELECT	4.7uF	20%	50V
C629	1-107-726-91	CERAMIC CHIP	0.01uF	10%	16V
C630	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C631	1-126-963-11	ELECT	4.7uF	20%	50V
C632	1-104-658-91	ELECT	100uF	20%	10V
C633	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C634	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C635	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C636	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C637	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C638	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C639	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C640	1-104-658-91	ELECT	100uF	20%	10V
C648	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C649	1-104-658-91	ELECT	100uF	20%	10V
C650	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C651	1-137-372-11	MYLAR	0.022uF	5%	50V
C652	1-104-658-91	ELECT	100uF	20%	10V
C653	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C654	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C655	1-137-807-31	ELECT	100uF	20%	50V
C656	1-131-704-11	FILM	1uF	5%	50V
C659	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C660	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C661	1-137-372-11	MYLAR	0.022uF	5%	50V
C663	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C666	1-131-704-11	FILM	1uF	5%	50V
C668	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C669	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C670	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C671	1-137-372-11	MYLAR	0.022uF	5%	50V
C672	1-104-658-91	ELECT	100uF	20%	10V
C673	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C674	1-216-864-11	SHORT CHIP	0		
C675	1-137-807-31	ELECT	100uF	20%	50V
C676	1-131-704-11	FILM	1uF	5%	50V
C678	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C679	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C680	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C681	1-137-372-11	MYLAR	0.022uF	5%	50V
C682	1-104-658-91	ELECT	100uF	20%	10V
C683	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C686	1-131-704-11	FILM	1uF	5%	50V
C689	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C690	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C692	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C693	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C694	1-164-346-11	CERAMIC CHIP	1uF		16V
C697	1-216-864-11	SHORT CHIP	0		
C698	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C699	1-162-974-11	CERAMIC CHIP	0.01uF		50V

< CONNECTOR >

Ref. No.	Part No.	Description
* CN600	1-564-508-11	PLUG, CONNECTOR 5P
CN601	1-568-838-11	CONNECTOR, FFC 21P

S-MASTER AMP | SP

Ref. No.	Part No.	Description				Remark
		< DIODE >				
D611	8-719-988-61	DIODE	1SS355TE-17			
D621	8-719-988-61	DIODE	1SS355TE-17			
D650	6-500-131-01	DIODE	LI116			
D651	6-500-248-01	DIODE	SFPL-62V			
D652	6-500-060-01	DIODE	P6SMB36AT3			
D660	6-500-131-01	DIODE	LI116			
D661	6-500-248-01	DIODE	SFPL-62V			
D662	6-500-060-01	DIODE	P6SMB36AT3			
D670	6-500-131-01	DIODE	LI116			
D671	6-500-248-01	DIODE	SFPL-62V			
D672	6-500-060-01	DIODE	P6SMB36AT3			
D680	6-500-131-01	DIODE	LI116			
D681	6-500-248-01	DIODE	SFPL-62V			
D682	6-500-060-01	DIODE	P6SMB36AT3			
		< EARTH TERMINAL >				
EP601	1-537-771-21	TERMINAL BOARD, GROUND				
EP602	1-537-771-21	TERMINAL BOARD, GROUND				
EP603	1-537-771-21	TERMINAL BOARD, GROUND				
		< FERRITE BEAD >				
FB601	1-216-864-11	SHORT CHIP	0			
FB604	1-216-864-11	SHORT CHIP	0			
FB605	1-469-324-21	FERRITE, EMI (SMD) (2012)				
FB606	1-216-864-11	SHORT CHIP	0			
FB607	1-216-864-11	SHORT CHIP	0			
FB610	1-469-324-21	FERRITE, EMI (SMD) (2012)				
FB620	1-469-324-21	FERRITE, EMI (SMD) (2012)				
FB640	1-216-864-11	SHORT CHIP	0			
FB641	1-216-864-11	SHORT CHIP	0			
FB642	1-216-864-11	SHORT CHIP	0			
FB650	1-469-324-21	FERRITE, EMI (SMD) (2012)				
FB652	1-414-551-11	FERRITE, EMI (SMD) (2012)				
FB653	1-414-551-11	FERRITE, EMI (SMD) (2012)				
FB660	1-216-296-11	SHORT CHIP	0			
FB662	1-414-551-11	FERRITE, EMI (SMD) (2012)				
FB663	1-414-551-11	FERRITE, EMI (SMD) (2012)				
FB670	1-216-296-11	SHORT CHIP	0			
FB680	1-469-324-21	FERRITE, EMI (SMD) (2012)				
		< IC >				
IC600	6-703-287-01	IC	CXD9743N			
IC603	6-701-834-01	IC	PCM1802DBR			
IC604	8-759-387-77	IC	TC7WU04F (TE12R)			
IC610	6-701-189-01	IC	MC74VHC1GU04DFT1			
IC618	6-700-263-01	IC	NJM2870F18 (TE2)			
IC650	6-703-288-01	IC	CXD9750L			
IC680	6-703-288-01	IC	CXD9750L			
		< COIL >				
L601	1-469-525-91	INDUCTOR	10uH			
L602	1-469-525-91	INDUCTOR	10uH			
L603	1-469-525-91	INDUCTOR	10uH			
L604	1-412-939-11	INDUCTOR	1uH			
L621	1-469-525-91	INDUCTOR	10uH			
L650	1-424-777-11	INDUCTOR	10uH			
L670	1-424-777-11	INDUCTOR	10uH			
		< TRANSISTOR >				
Q691	8-729-602-36	TRANSISTOR	2SA1602-F			
Q692	8-729-602-36	TRANSISTOR	2SA1602-F			
Q693	8-729-602-36	TRANSISTOR	2SA1602-F			
Q694	8-729-602-36	TRANSISTOR	2SA1602-F			
Q696	8-729-120-28	TRANSISTOR	2SC1623-L5L6			
		< RESISTOR >				
R601	1-216-809-11	METAL CHIP	100	5%	1/10W	
R602	1-216-809-11	METAL CHIP	100	5%	1/10W	
R603	1-216-809-11	METAL CHIP	100	5%	1/10W	
R604	1-216-809-11	METAL CHIP	100	5%	1/10W	
R605	1-216-821-11	METAL CHIP	1K	5%	1/10W	
R606	1-216-809-11	METAL CHIP	100	5%	1/10W	
R607	1-216-809-11	METAL CHIP	100	5%	1/10W	
R608	1-216-864-11	SHORT CHIP	0			
R609	1-216-809-11	METAL CHIP	100	5%	1/10W	
R610	1-216-809-11	METAL CHIP	100	5%	1/10W	
R612	1-216-809-11	METAL CHIP	100	5%	1/10W	
R613	1-216-809-11	METAL CHIP	100	5%	1/10W	
R614	1-216-857-11	METAL CHIP	1M	5%	1/10W	
R615	1-216-817-11	METAL CHIP	470	5%	1/10W	
R618	1-216-864-11	SHORT CHIP	0			
R619	1-216-857-11	METAL CHIP	1M	5%	1/10W	
R620	1-218-484-11	METAL CHIP	750	5%	1/10W	
R623	1-216-845-11	METAL CHIP	100K	5%	1/10W	
R640	1-216-809-11	METAL CHIP	100	5%	1/10W	
R641	1-216-809-11	METAL CHIP	100	5%	1/10W	
R642	1-216-809-11	METAL CHIP	100	5%	1/10W	
R651	1-216-296-11	SHORT CHIP	0			
R652	1-216-809-11	METAL CHIP	100	5%	1/10W	
R653	1-216-809-11	METAL CHIP	100	5%	1/10W	
R661	1-216-296-11	SHORT CHIP	0			
R662	1-216-809-11	METAL CHIP	100	5%	1/10W	
R663	1-216-809-11	METAL CHIP	100	5%	1/10W	
R671	1-216-296-11	SHORT CHIP	0			
R681	1-216-296-11	SHORT CHIP	0			
R691	1-216-845-11	METAL CHIP	100K	5%	1/10W	
R692	1-216-845-11	METAL CHIP	100K	5%	1/10W	
R693	1-216-845-11	METAL CHIP	100K	5%	1/10W	
R694	1-216-845-11	METAL CHIP	100K	5%	1/10W	
R695	1-216-845-11	METAL CHIP	100K	5%	1/10W	
R696	1-216-845-11	METAL CHIP	100K	5%	1/10W	
R697	1-216-845-11	METAL CHIP	100K	5%	1/10W	
		< VIBRATOR >				
X601	1-795-843-11	VIBRATOR, CRYSTAL (12.288MHz)				
X602	1-795-660-21	QUARTZ CRYSTAL UNIT (49.152MHz)				

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SP BOARD
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Ref. No.	Part No.	Description				Remark
		< CAPACITOR >				
C852	1-164-362-11	CERAMIC CHIP	470PF	5%	50V	
C862	1-164-362-11	CERAMIC CHIP	470PF	5%	50V	

SP **SUB PANEL** **SUB POWER** **TC**

Ref. No.	Part No.	Description			Remark
C872	1-164-362-11	CERAMIC CHIP	470PF	5%	50V
C882	1-164-362-11	CERAMIC CHIP	470PF	5%	50V
		< CONNECTOR >			
CN850	1-564-505-21	PLUG, CONNECTOR 2P			
CN870	1-564-505-11	PLUG, CONNECTOR 2P			
		< JACK >			
J860	1-537-114-21	TERMINAL BOARD (SPEAKER)			
		< COIL >			
L890	1-410-121-11	INDUCTOR	1.5mH		

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SUB PANEL BOARD
****

Ref. No.	Part No.	Description			Remark
		< DIODE >			
D870	8-719-046-36	DIODE SEL5921A-TP15 (CD ►II)			
		< TRANSISTOR >			
Q870	8-729-027-43	TRANSISTOR	DTC114EKA-T146		
		< RESISTOR >			
R870	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R871	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R874	1-216-817-11	METAL CHIP	470	5%	1/10W
R875	1-216-817-11	METAL CHIP	470	5%	1/10W
R876	1-216-809-11	METAL CHIP	100	5%	1/10W
		< SWITCH >			
S816	1-762-875-21	SWITCH, KEYBOARD (CD ►II)			
S817	1-762-875-21	SWITCH, KEYBOARD ((CD) ■)			

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SUB POWER BOARD
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Ref. No.	Part No.	Description			Remark
		< CAPACITOR >			
⚠C991	1-113-925-11	CERAMIC	0.01uF	20%	250V
⚠C992	1-113-925-11	CERAMIC	0.01uF	20%	250V
C993	1-126-768-11	ELECT	2200uF	20%	16V
C994	1-104-658-91	ELECT	100uF	20%	10V
		< CONNECTOR >			
CN990	1-564-321-00	PIN, CONNECTOR (3.96mm PITCH) 2P			
		< DIODE >			
D990	8-719-988-61	DIODE 1SS355TE-17			
D991	8-719-988-61	DIODE 1SS355TE-17			
D992	6-500-522-31	DIODE 10EDB40-TB5			
D993	6-500-522-31	DIODE 10EDB40-TB5			
D994	6-500-522-31	DIODE 10EDB40-TB5			
D995	6-500-522-31	DIODE 10EDB40-TB5			
		< IC >			
IC991	6-703-627-01	IC NJU7201L40 (T3)			
		< TRANSISTOR >			
Q990	8-729-141-73	TRANSISTOR	2SC3624A-T1L15L16		
Q991	8-729-141-73	TRANSISTOR	2SC3624A-T1L15L16		
		< RESISTOR >			
R991	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R992	1-216-845-11	METAL CHIP	100K	5%	1/10W
R993	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R994	1-216-845-11	METAL CHIP	100K	5%	1/10W
		< RELAY >			
⚠RY990	1-755-467-11	RELAY (POWER)			
⚠RY991	1-755-467-11	RELAY (POWER)			
		< TRANSFORMER >			
⚠T991	1-437-676-11	TRANSFORMER, POWER (AEP, UK)			
⚠T991	1-437-677-11	TRANSFORMER, POWER (KR, AUS)			

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A-4750-369-A TC BOARD, COMPLETE
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Ref. No.	Part No.	Description			Remark
		< CAPACITOR >			
C601	1-126-947-11	ELECT	47uF	20%	35V
C602	1-130-483-00	MYLAR	0.01uF	5%	50V
C604	1-130-495-00	MYLAR	0.1uF	5%	50V
C605	1-126-964-11	ELECT	10uF	20%	50V
C606	1-126-960-11	ELECT	1uF	20%	50V
C607	1-162-962-11	CERAMIC CHIP	470PF	10%	50V
C608	1-126-961-11	ELECT	2.2uF	20%	50V
C610	1-162-961-11	CERAMIC CHIP	330PF	10%	50V
C611	1-162-928-11	CERAMIC CHIP	120PF	5%	50V
C612	1-162-946-11	CERAMIC CHIP	27PF	5%	50V
C613	1-164-392-11	CERAMIC CHIP	390PF	5%	50V
C614	1-130-483-00	MYLAR	0.01uF	5%	50V
C630	1-126-933-11	ELECT	100uF	20%	16V
C632	1-126-964-11	ELECT	10uF	20%	50V
C633	1-126-964-11	ELECT	10uF	20%	50V
C634	1-126-964-11	ELECT	10uF	20%	50V
C635	1-126-960-11	ELECT	1uF	20%	50V
C639	1-126-964-11	ELECT	10uF	20%	50V
C640	1-126-947-11	ELECT	47uF	20%	35V
C641	1-126-961-11	ELECT	2.2uF	20%	50V
C642	1-137-150-11	FILM	0.01uF	5%	100V
C643	1-130-485-00	MYLAR	0.015uF	5%	50V
C644	1-130-481-00	MYLAR	0.0068uF	5%	50V
C645	1-130-481-00	MYLAR	0.0068uF	5%	50V
C646	1-130-486-00	MYLAR	0.018uF	5%	50V
C647	1-126-964-11	ELECT	10uF	20%	50V
C651	1-126-947-11	ELECT	47uF	20%	35V
C652	1-130-483-00	MYLAR	0.01uF	5%	50V
C654	1-130-495-00	MYLAR	0.1uF	5%	50V
C655	1-126-964-11	ELECT	10uF	20%	50V
C656	1-126-960-11	ELECT	1uF	20%	50V
C657	1-162-962-11	CERAMIC CHIP	470PF	10%	50V
C658	1-126-961-11	ELECT	2.2uF	20%	50V
C660	1-162-961-11	CERAMIC CHIP	330PF	10%	50V
C661	1-162-928-11	CERAMIC CHIP	120PF	5%	50V

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

TC

Ref. No.	Part No.	Description			Remark
C662	1-162-946-11	CERAMIC CHIP	27PF	5%	50V
C663	1-164-392-11	CERAMIC CHIP	390PF	5%	50V
C664	1-130-483-00	MYLAR	0.01uF	5%	50V
C681	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
		< CONNECTOR >			
CN602	1-770-516-31	FFC/CONNECTOR, FPC (LIF (NON-ZIF)) 8P			
CN603	1-784-780-11	CONNECTOR, FFC 19P			
		< DIODE >			
D681	8-719-988-61	DIODE 1SS355TE-17			
		< IC >			
IC601	6-702-130-01	IC HA12237F			
IC602	8-759-508-69	IC BA3126N			
		< SHORT >			
JR602	1-216-296-11	SHORT CHIP	0		
		< JUMPER RESISTOR >			
JW630	1-216-864-11	SHORT CHIP	0		
		< COIL >			
L601	1-410-780-11	INDUCTOR	27mH		
L651	1-410-780-11	INDUCTOR	27mH		
		< TRANSISTOR >			
Q639	8-729-119-77	TRANSISTOR	2SA1175-FEK		
Q640	8-729-029-66	TRANSISTOR	DTC114ESA		
Q641	8-729-801-93	TRANSISTOR	2SD1387-3		
Q642	8-729-142-46	TRANSISTOR	2SC2001-LK		
Q643	8-729-142-46	TRANSISTOR	2SC2001-LK		
Q680	8-729-029-66	TRANSISTOR	DTC114ESA		
Q681	8-729-029-40	TRANSISTOR	DTA124ESA		
Q691	8-729-027-43	TRANSISTOR	DTC114EKA-T146		
Q692	8-729-027-43	TRANSISTOR	DTC114EKA-T146		
Q693	8-729-140-04	TRANSISTOR	2SB1116A-L		
Q694	8-729-116-57	TRANSISTOR	2SB1068-K		
		< RESISTOR >			
R601	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R602	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R603	1-216-827-11	METAL CHIP	3.3K	5%	1/10W
R604	1-216-833-11	METAL CHIP	10K	5%	1/10W
R605	1-216-841-11	METAL CHIP	47K	5%	1/10W
R606	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R607	1-216-833-11	METAL CHIP	10K	5%	1/10W
R608	1-216-833-11	METAL CHIP	10K	5%	1/10W
R609	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R610	1-216-832-11	METAL CHIP	8.2K	5%	1/10W
R611	1-216-837-11	METAL CHIP	22K	5%	1/10W
R630	1-216-857-11	METAL CHIP	1M	5%	1/10W
R631	1-216-837-11	METAL CHIP	22K	5%	1/10W
R632	1-216-821-11	METAL CHIP	1K	5%	1/10W
R633	1-216-833-11	METAL CHIP	10K	5%	1/10W
R635	1-216-809-11	METAL CHIP	100	5%	1/10W
R640	1-216-833-11	METAL CHIP	10K	5%	1/10W
R641	1-218-867-11	METAL CHIP	6.8K	0.5%	1/10W
R642	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
⚠R643	1-219-787-17	FUSIBLE	5.6	5%	1/4W
⚠R644	1-219-787-17	FUSIBLE	5.6	5%	1/4W
R645	1-216-836-11	METAL CHIP	18K	5%	1/10W
R646	1-216-836-11	METAL CHIP	18K	5%	1/10W
R647	1-216-837-11	METAL CHIP	22K	5%	1/10W
R648	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R651	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R652	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R653	1-216-827-11	METAL CHIP	3.3K	5%	1/10W
R654	1-216-833-11	METAL CHIP	10K	5%	1/10W
R655	1-216-841-11	METAL CHIP	47K	5%	1/10W
R656	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R657	1-216-833-11	METAL CHIP	10K	5%	1/10W
R658	1-216-833-11	METAL CHIP	10K	5%	1/10W
R659	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R660	1-216-832-11	METAL CHIP	8.2K	5%	1/10W
R661	1-216-837-11	METAL CHIP	22K	5%	1/10W
R680	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R681	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R682	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R683	1-216-819-11	METAL CHIP	680	5%	1/10W
R684	1-216-827-11	METAL CHIP	3.3K	5%	1/10W
R685	1-216-827-11	METAL CHIP	3.3K	5%	1/10W
R686	1-216-827-11	METAL CHIP	3.3K	5%	1/10W
R687	1-216-841-11	METAL CHIP	47K	5%	1/10W
R688	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R689	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R690	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R691	1-216-833-11	METAL CHIP	10K	5%	1/10W
R692	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R693	1-216-841-11	METAL CHIP	47K	5%	1/10W
R694	1-216-837-11	METAL CHIP	22K	5%	1/10W
R695	1-216-833-11	METAL CHIP	10K	5%	1/10W
		< VARIABLE RESISTOR >			
RV603	1-241-768-11	RES, ADJ CERMET		220K	
RV653	1-241-768-11	RES, ADJ CERMET		220K	
		< TRANSFORMER >			
T601	1-423-980-11	TRANSFORMER, BIAS OSCILLATION			

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MISCELLANEOUS
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Ref. No.	Part No.	Description
60	1-824-192-11	WIRE (FLAT TYPE) (8 CORE)
63	1-796-456-31	DECK, MECHANICAL (CMAL1Z-236A)
69	1-773-120-11	WIRE (FLAT TYPE) (19 CORE)
71	1-773-110-11	WIRE (FLAT TYPE) (19 CORE)
102	1-769-912-11	WIRE (FLAT TYPE) (9 CORE)
⚠151	1-769-079-23	CORD, POWER (KR)
⚠151	1-777-071-83	CORD, POWER (AEP, UK)
⚠151	1-783-203-13	CORD, POWER (AUS)
155	1-777-353-11	FLAT CABLE (15 CORE) (AEP, UK)
155	1-824-486-11	WIRE (FLAT TYPE) (11 CORE) (KR, AUS)

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Ref. No.	Part No.	Description	Remark
156	1-693-603-31	TUNER (FM/AM) (AUS)	
156	1-693-604-11	TUNER (FM/AM) (AEP, UK)	
156	1-693-605-11	TUNER (FM/AM) (KR)	
158	1-773-105-11	WIRE (FLAT TYPE) (19 CORE)	
⚠201	1-468-730-11	REGULATOR, SWITCHING	
203	1-500-484-21	CLAMP, SLEEVE FERRITE	
204	1-773-158-11	WIRE (FLAT TYPE) (21 CORE)	
413	1-763-967-11	MOTOR, DC	
462	1-452-925-21	MAGNET ASSY	
⚠556	8-820-244-01	OPTICAL PICK-UP (KSM-215DCP/C2NP)	
557	1-775-241-11	WIRE (FLAT TYPE) (27 CORE)	
559	1-827-992-11	WIRE (FLAT TYPE)(16 CORE)	
M701	X-2021-530-1	MOTOR (PULLEY) ASSY (LOADING)	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

MEMO

REVISION HISTORY

Clicking the version allows you to jump to the revised page.
Also, clicking the version at the upper right on the revised page allows you to jump to the next revised page.

Ver.	Date	Description of Revision
1.0	2004.04	New
1.1	2004.04	Correction in test mode (ENG-04001)